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FIELD OVERSIGHT SUMMARY REPORT
ACS NPL SITE
GRIFFITH, INDIANA
March 29, 1997 - May 31, 1997

Letter of Transmittal
BLACK & VEATCH Special Projects Corp.

101 North Wacker Drive, Suite 1100, Chicago, Illinois 60606, Phone (312) 346-3775, Fax (312) 346-4781

13

To: Ms Sheri Bianchin
United States Environmental Protection Agency
77 West Jackson Blvd. (SRW-6J)
Chicago, Illinois 60604

Date: June 20, 1997
From: Ashok Rupani
Project: American Chemical Services
Project No.: 71670
File: E.1

We are sending you: [XX] Attached [ ] Under separate cover via

- [ ] Preliminary Report
- [ ] Final Report
- [XX] Other — Oversight Summary Report
- [ ] Specifications
- [ ] Change Order
- [ ] Addendum

These items are transmitted:

- [ ] As requested
- [ ] For your approval
- [XX] For your information
- [ ] For review and comment

Remarks: Enclosed is oversight summary report for the field activities conducted during the period March 29, 1997 through May 31, 1997. During this period, following key activities were performed by Montgomery Watson:

- Benching and pre-excavation activities associated with BWES;
- Barrier Wall Installation;
- Completion of barrier wall extraction trenches;
- Completion of BWES conveyance piping;
- Installation of PGCS level-monitoring piezometers;
- Completion of PGCS Start-up sampling;
- Construction of ACS Stormwater Collection System;
- Residential Well Sampling;
- Sampling of ACS facility well ATMW-4D.

If you have any questions, please call me at 312/683-7822.

American Chemical Services
Work Assignment 80-5PJ7

Copy To: P. Hendrixson, USEPA (w/o enclosures)
E. Howard, USEPA (w/o enclosures)
Steve Mrkvicka, B&VSPC (w/enclosures)

Signed: [signature]

Dated: 6-13-97

Letter of Transmittal
BLACK & VEATCH Special Projects Corp.

101 North Wacker Drive, Suite 1100, Chicago, Illinois 60606, Phone (312) 346-3775, Fax (312) 346-4781

To: Ms. Sheri Bianchin
United States Environmental Protection Agency
77 West Jackson Blvd. (SRW-6J)
Chicago, Illinois 60604

Date: May 12, 1997
From: Ashok Rupani
Project: American Chemical Services
Project No.: 71670
File: E.1

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These items are transmitted:

- [ ] As requested
- [ ] For your approval
- [XX] For your information
- [ ] For review and comment

Remarks: Enclosed is oversight summary report for the field activities conducted during the period December 28, 1996 through February 5, 1997. During this period, following activities were performed by Montgomery-Watson:

- Installation of conveyance piping associated with Barrier Wall Extraction System (BWES);
- Benching and pre-excavation activities in preparation for the construction of BWES.
- Installation of Perimeter Groundwater Containment System (PGCS) Extraction Trench;
- Installation of conveyance piping associated with the PGCS Extraction Trench;
- Installation of water line for the PGCS treatment building;

If you have any questions, please call me at 312/683-7822.

American Chemical Services
Work Assignment 80-5PJ7

Copy To: P. Hendrixson, USEPA (w/o enclosures)
E. Howard, USEPA (w/o enclosures)
Steve Mrkvicka, BVSPC (w/enclosures)

Signed: _____ Dated: 5-12-97

USEPA/ARCS V
BVSPC Field Oversight Summary

Reporting Period: March 29, 1997 - May 31, 1997 BVSPC Project No. 71670
Site Name/Location: ACS, Griffith, IN Hours Worked: 276
USEPA Work Assignment Manager: Sheri Bianchin
Project Coordinator: Steve Mrkvicka

Personnel Summary Affiliation	No. of Personnel	Responsibility
John Gandy, Foster Wheeler Environmental Corp., Columbus, OH	1	Barrier Wall Construction Quality Assurance & Quality Control
Horizontal Technologies, Inc., Lake Alfred, FL (HTI)	10	Installation of Barrier Wall Extraction System (BWES) and benching and pre-excavation activities associated with BWES
Young's Environmental Cleanup, Inc., Flint, MI (Youngs)	4	Completion of Perimeter Groundwater Containment System (PGCS) and BWES Conveyance Piping
Ben McGeachy and Lee Orsorz, Montgomery Watson, Addison, IL	1	Respondent's General Contractor
Jeff Ramsby and Others, Montgomery Watson Madison, WI	6	Field Sampling and PGCS Piezometer Installation
Ashok Rupani and Steve Mrkvicka, Black & Veatch Special Projects Corp., Chicago, IL (BVSPC)	2	USEPA Oversight Contractor

Summary of field activities

A number of field activities were undertaken by the Respondents during this reporting period. From March 29, 1997, through May 31, 1997, the Respondent's General Contractor, Montgomery Watson and its subcontractors, HTI and Youngs, conducted field activities associated with the completion of PGCS and BWES. A

stormwater collection system was also constructed at the site by ACS and its Contractor Harrington Engineering & Construction, Inc. (HEC) of Chesterton, Indiana. HEC utilized the services of its subcontractor Midwest Material Services (MMS) of Hammond, Indiana, for majority of the stormwater project and ACS personnel to complete the project. BVSPC provided oversight during the reporting period. Copies of BVSPC field notes and photographs showing key activities are attached.

Air Monitoring and Health and Safety

Health and safety personnel from Youngs, HTI, MMS and ACS were present on-site during all intrusive activities. Their main task was to conduct continuous air monitoring during intrusive activities, notify the working crew as necessary, and advise of any needed upgrades to Level C or Level B personal protection. Most of the activities were conducted in Level C personal protection for the operators and workers closest to the excavation and modified Level D personal protection for other workers.

Health and safety personnel conducted continuous air monitoring using a photoionization detector (PID) or an HNu. Periodically, or as suspected, draeger tubes for benzene and vinyl chloride detection were also utilized.

Barrier Wall Extraction System

During this reporting period, HTI conducted benching activities near the north-west corner of the Offsite Containment Area and pre-excavation activities in the Onsite Containment Area along the barrier wall alignment. HTI also installed approximately 2,200 feet of barrier wall and installed manholes at all of the barrier wall extraction trenches completed earlier.

Spoils Handling

During benching and pre-excavation activities along the barrier wall alignment in the Onsite Containment Area, excess soils which indicated presence of volatile organic compounds (VOCs) upon field screening were placed in the Upper Aquifer Spoils Management Area in accordance with the Spoils Management Plan. Excess soils which did not indicate presence of VOCs upon field screening were stockpiled near the excavation to be later re-used for backfilling the excavation. Some old, abandoned utility lines were encountered near the south-east corner of the Onsite Containment Area. These lines were taken out and placed in the Miscellaneous Debris Management Area.

Construction de-watering water generated during activities associated with the construction of barrier wall extraction system was temporarily stored in 20,000-gallon

Baker Tanks and passed through a granular activated carbon unit. After the effluent samples indicated that the discharge standards have been met, this water was discharged to the wetlands by pumping it back into the treatment system.

Investigative Soil Borings

On May 6, 1997, C. S. Drilling Company of Addison, Illinois, mobilized to the site to conduct investigative soil borings along the revised barrier wall alignment in the Onsite Containment Area. This revised alignment, formally proposed by Montgomery Watson in a May 9, 1997, letter to the USEPA, and later approved by the USEPA on May 15, 1997, extended the northern leg of the original alignment approximately 200 feet north to follow the ACS fence line. The objective of this task was to identify any potential obstacles, such as miscellaneous debris, buried drums, etc., that HTI might encounter along the revised barrier wall alignment.

The drilling was conducted using 2 1/4-inch inside diameter hollow-stemmed augers mounted on a Dietrich D-50 Turbo drill rig. All borings were advanced to the top of the upper confining layer. At each boring, split-spoon samples were collected at 5-foot depth intervals for visual inspection. Continuous split-spoon samples were collected closer to the anticipated depth of the top of the clay layer.

A total of 15 soil borings (designated as TB-30 through TB-44) were conducted along the proposed alignment along the ACS fence line, i.e., approximately from Station 28+00 to Station 37+00. The spacing of the first 10 borings was kept at 50 feet. The spacing was increased to 100 feet for the final five (5) borings.

The borings indicated that the top of the clay layer varied in depth from 15 to 17 feet below ground surface (bgs). The blow counts indicated the presence of hard clay. Based on the boring logs, it appeared that HTI would not encounter any significant problems or obstacles during barrier wall installation along the revised alignment.

All borings were backfilled with bentonite grout from the base of the borehole up. All soil cuttings were left in place near the borings to be later picked up by HTI after the installation of the barrier wall.

The drilling activities were completed on May 8, 1997.

Benching and Pre-excavation Activities

During this reporting period, HTI conducted benching activities in the north-west corner of the Offsite Containment Area and pre-excavation activities along the western and the eastern leg of the barrier wall alignment in the Onsite Containment Area to prepare for the installation of barrier wall in these areas. Benching is defined as creating

a level, working platform either by excavating the native soils or building an embankment with clean imported soils to achieve required elevations. Pre-excavation refers to the excavation of undesirable materials such as municipal waste/debris, buried drums, etc., and if necessary, backfilling with clean, imported sand. Benching is also required to overcome limitations on the trenching machine's installation boot length and varying elevations of the top of the clay layer. Depth to clay is maximum in the south-east region of the Offsite Containment Area.

Near the south-east corner of the Offsite Containment Area and along the northern leg of the revised alignment, HTI utilized the barrier wall trenching machine without the HDPE panel installation boot to conduct pre-trenching activities. Pre-trenching refers to the excavation conducted using the cutting chain of the barrier wall trenching machine and simultaneously backfilling with the bentonite slurry. This operation is similar to installing the slurry wall portion of the barrier wall. The pre-trenching was conducted to avoid any potential problems during barrier wall installation that could be encountered due to the presence of hard clay (along the northern leg of the revised barrier wall alignment) and gravel/boulders (near the south-east corner of the Offsite Containment Area). The pre-trenching depth was maintained close to the design depth of the barrier wall

Near the north-west corner of the Offsite Containment Area, HTI constructed a three (3) to four (4) feet high bench using the Colfax sand. Excavation varying in depth from one (1) to two (2) feet was conducted along the western leg of the barrier wall alignment in the Onsite Containment Area and across the railroad tracks between Stations 23+00 and 25+00. Excavation varying in depth from four (4) to six (6) feet was conducted along the eastern leg of the barrier wall alignment in the Onsite Containment Area between Stations 39+00 and 42+00. Some old, abandoned utility lines were encountered in this area.

Installation of Barrier Wall

As described in earlier reports, HTI encountered several problems during barrier wall installation activities. Based on their own alignment borings and review of investigative borings conducted by Montgomery Watson, HTI had expected the barrier wall alignment area to consist entirely of fine sand and clay. However, on March 11, 1997, the trenching machine had unexpectedly encountered coarser gravel, cobbles and boulders within the upper aquifer zone near the south-east corner of the Offsite Containment Area. HTI attempted unsuccessfully to resume barrier wall installation activities a few times in this area. The coarser gravel, however, continued to lock up the

installation boot thereby causing uneven feed of the HDPE panel. Finally, on April 4, 1997, HTI switched to a two-pass process in which they would install the slurry wall portion of the barrier wall in the first pass and then install the HDPE panel in a second pass through the slurry wall. HTI believed this approach would minimize the problem of courser gravel locking up inside the installation boot and causing uneven feed of the HDPE panel. It would also provide them time to mobilize a second installation boot to the site to use in case the present boot continued to bind even during the second pass.

HTI initiated the first pass of the two-pass process at Station 7+00 near the south-east corner of the Offsite Containment Area, and proceeded north. After skipping over the railroad tracks across the eastern leg of the barrier wall alignment, HTI resumed the slurry wall installation near Station 41+00 on April 9, 1997.

On April 10, 1997, while installing the slurry wall along the northern leg of the original barrier wall alignment, a number of drums and drum carcasses were encountered right across the ACS's truck loading/unloading pad. As soon as the first signs of the presence of buried drums were noticed, HTI halted the slurry wall installation activities and began exploring the extent of buried drums using the excavator. The buried drums appeared to be spread over an approximately 70 feet long stretch. HTI skipped over this area and resumed the slurry wall installation activities. Approximately 12 of the buried drums were uncovered and excavated. These were temporarily staged nearby and covered with plastic.

On April 12, 1997, while installing the slurry wall along the northern leg of the original barrier wall alignment, HTI encountered unexpected cobbles and boulders at Station 30+50. This caused a significant damage to the cutting chain of the trenching machine. HTI resumed after repairing the cutting chain. HTI again encountered cobbles and boulders at Station 29+00. This encounter broke the cutting chain entirely.

After replacing the cutting chain, HTI resumed slurry wall installation on April 16, 1997, near Station 25+00 in the south-west corner of the Onsite Containment Area, thereby skipping a stretch consisting of railroad tracks along the western leg of the alignment. On April 10, 1997, ACS had its subcontractor remove the railroad tracks near Station 26+00. HTI temporarily took the water line, crossing the barrier wall alignment between Stations 27+00 and 28+00, out of service and restored it after the installation of slurry wall. Some de-watering was required to successfully conduct these activities. HTI proceeded north until encountering cobbles and boulders again near Station 28+00. HTI completed the slurry wall installation along rest of the original barrier wall alignment on April 16, 1997, with a few gaps as described above.

On April 22, 1997, HTI initiated the second pass of the two-pass process at Station 7+00 near the south-east corner of the Offsite Containment Area, and proceeded north. The barrier wall installation procedure has been described in detail in the last report. After installing two HDPE panels, HTI once again encountered the same problem of course gravel locking up inside the installation boot and causing uneven feed of the HDPE panel. HTI pulled the trenching machine out of the ground and began making needed repairs.

HTI mobilized another trenching machine during the week of April 21, 1997. This machine had a smaller installation boot, and therefore, was believed by HTI to be more suitable for barrier wall installation along the northern leg and the remainder of the western leg of the alignment.

On April 29, 1997, HTI began barrier wall installation at Station 22+00 in the Offsite Containment Area and proceeded north through the railroad tracks. ACS had its subcontractor remove these railroad tracks on May 5, 1997. From Station 25+00 to Station 28+00, this process constituted second pass of the two-pass process as described above. Once again, HTI temporarily took the water line, crossing the barrier wall alignment between Stations 27+00 and 28+00, out of service and restored it after the installation of the second pass was completed in this area. Some de-watering was required to successfully conduct these activities. By May 8, 1997, HTI had completed barrier wall installation to the Station 28+00. In order to avoid going through the cobbles and boulders encountered earlier, Montgomery Watson, in a May 9, 1997, letter to the USEPA, formally proposed a revised barrier wall alignment which extended the northern leg of the original alignment approximately 200 feet north to follow the ACS fence line. The proposed alignment was approved by the USEPA on May 15, 1997.

After completing the required benching and pre-excavation activities, HTI resumed barrier wall installation on May 15, 1997, at Station 28+00. On May 19, 1997, HTI completed the barrier wall installation to Station 40+00 along the eastern leg of the alignment. HTI installed 17 HDPE panels between Stations 22+00 and 40+00. HTI could not go any further with the smaller trenching machine due to increasing depth to the top of the clay layer. HTI did not encounter any problems during this phase of the barrier wall installation activities except near the south-west corner of the Onsite Containment Area.

An active sewer line runs across the site and along the railroad tracks south of the ACS facility. The sewer line, located at an approximate depth of 8 to 10 feet bgs, cuts the barrier wall alignment at two separate locations: one near the south-west corner and other near the south-east corner of the Onsite Containment Area. On April 14, 1997,

Griffin De-watering, Inc. of Griffith, Indiana, subcontractor to HTI, mobilized to the site and began installing a de-watering system at three locations along the barrier wall alignment. The de-watering system at each location consisted of a set of 10 evenly spaced well points set at depths of 20 to 30 feet bgs. The well points were installed by hydro-jetting method.

Before installing barrier wall in the south-west corner of the Onsite Containment Area, HTI cut a section of the sewer line running across the barrier wall alignment and capped the two ends before backfilling with excavated material. The sewer line was temporarily restored by hydraulically diverting it above ground from an upstream and a downstream manhole. After the barrier wall was installed through this area, HTI excavated down to the depth of the sewer line and restored it by cutting a hole in the barrier wall HDPE panel and welding an HDPE sleeve onto the wall. During excavation activities associated with sewer line, HTI conducted de-watering to maintain dry conditions. All de-watering water was temporarily stored in 20,000-gallon Baker Tanks for subsequent treatment and disposal. HTI permanently restored the sewer line and backfilled the excavation on May 13, 1997.

On May 20, 1997, after making needed repairs, HTI began barrier wall installation with the bigger trenching machine. HTI initiated the installation activities at Station 8+50 near the south-east corner of the Offsite Containment Area and proceeded north. North of the Station 7+00, this process would constitute second of the two-pass process. HTI continued to encounter similar problems as described earlier. However, by the end of this reporting period, HTI had managed to install three (3) HDPE panels to Station 5+00 with one gap after the first two HDPE panels.

At the end of this reporting period, a total of five (5) gaps, four (4) in the Offsite Containment Area and one (1) in the Onsite Containment Area, have been created in the barrier wall. HTI is currently working with Slurry Walls, Inc., an independent consultant, to design an acceptable solution to close these, and potentially more, gaps.

Installation of Barrier Wall Extraction Manholes

During the last reporting period, HTI had installed eight (8) barrier wall extraction trenches located inside of the barrier wall alignment. Extraction Trenches 10, 17 and 18 were located in the Onsite Containment Area, whereas trenches 11, 12, 13, 15 and 16 were located in the Offsite Containment Area.

Between April 2, 1997, and April 14, 1997, HTI installed a 48-inch diameter, pre-cast concrete manhole at the pumping end of each of the extraction trenches, except Extraction Trench 11. Manhole installation at Extraction Trench 11 was completed on

May 20, 1997. The manhole would house the sump casing, compressed air filter/regulator, and the hose connections, and has side openings to allow entrance and exit of the conveyance piping and air supply line.

Field activities began with excavating around the sump, to a depth of approximately four (4) to five (5) feet bgs. The manhole was set on top of a 6-inch fine gravel layer. HTI checked the elevations of the bottom of the excavation and top of the gravel layer. Excess soils were relocated to the Upper Aquifer Spoils Management Area. If water was encountered at any location, it was pumped into a 20,000-gallon Baker Tank for subsequent treatment and disposal. Significant quantity of water was pumped from Extraction Trenches 10, 11, 12, 13 and 18.

During this reporting period, HTI completed mechanical installations, i.e., pumps, hose connections, etc., at all of the extraction sumps. Note that the Extraction Trench 14 remains to be constructed.

Completion of BWES Conveyance Piping

Between May 12, 1997, and May 20, 1997, Youngs installed the remainder of the barrier wall extraction system (BWES) conveyance piping along the eastern leg of the barrier wall alignment except through the railroad tracks located south of the ACS facility, and in the north-west corner of the Offsite Containment Area along the western leg of the barrier wall alignment. HTI and Montgomery Watson worked together to install the BWES conveyance piping through the railroad tracks along the western leg of the barrier wall alignment. The field procedures for the installation of the BWES conveyance piping have been described in detail in an earlier report.

During this reporting period, Youngs extended the BWES conveyance piping to connect to the manhole installed at each of the barrier wall extraction trenches. No excess soils were generated during these activities. If water was encountered at any location, it was pumped into a 20,000-gallon Baker Tank for subsequent treatment and disposal. Significant quantity of water was pumped from Extraction Trenches 10, 11, 12, 13 and 18. As noted earlier, the Extraction Trench 14 remains to be constructed.

Youngs began the pressure testing of the BWES conveyance piping on May 21, 1997, and successfully completed the testing on May 22, 1997.

Perimeter Groundwater Containment System

During this reporting period, Montgomery Watson completed the start-up sampling of the treatment system and the installation of PGCS level-monitoring piezometers in accordance with the Performance Standard Verification Plan (PSVP).

The USEPA approved with modifications the PGCS-PSVP but disapproved the PGCS-QAPP in a February 21, 1997, letter to the Respondents. After several discussions with the Respondents and Montgomery Watson, the USEPA revised the February 21, 1997, letter in a May 9, 1997, letter to the Respondents. At the time of writing of this report, the Respondents were in the process of revising the PGCS-PSVP and PGCS-QAPP for subsequent approval of the USEPA.

Installation of Piezometers

Based on the May 15, 1997, USEPA approval of the Specific Operating Procedure (SOP) for the PGCS piezometer installation, Montgomery Watson initiated the field activities on May 15, 1997. The final SOP, dated May 2, 1997, called for utilization of hydro-jetting method to install the piezometers. The purpose of these piezometers is to monitor the effectiveness of the PGCS.

On May 15, 1997, Midwest De-watering Company of Hammond, Indiana, mobilized to the site to install the PGCS level-monitoring piezometers. The hydro-jetting method utilized a high-pressure water flush through a steel casing to displace the soils ahead of the casing. The piezometer screen was manually advanced alongside the casing as the casing advanced through the soils. When the desired depth was reached, the casing was immediately pulled out of the ground and the piezometer screen was allowed to set at that depth.

A total of four (4) piezometer clusters, three (3) piezometers in each cluster, were installed along the PGCS extraction trench. These piezometers were designated as P-81 through P-92. All piezometers were constructed of 2-inch diameter stainless steel well screens (0.005-inch slot) flush-threaded to the solid PVC riser pipes with at least two (2) feet of stick-up above the ground. One piezometer in each cluster was installed in the PGCS extraction trench to six (6) inches above the top of the extraction pipe. The depth of the extraction pipe was verified in the field by Montgomery Watson field representative. In each cluster, one piezometer was installed on either side of the extraction trench, approximately 25 feet away. These outside piezometers were installed at the top of the upper clay layer. A 4-inch square steel protective cover was installed at each piezometer location in accordance with the SOP.

Following installation, all 12 piezometers were developed by Montgomery Watson field personnel using a low flow pump. Approximately five (5) to eight (8) gallons of groundwater was purged from each of the piezometers until the turbidity was stabilized, i.e., remained with 10 percent for three (3) consecutive readings.

The piezometer installation and development activities were completed on May 16, 1997.

Start-up Sampling

In accordance with the PSVP, effluent sampling was required on each of the first seven (7) days of treatment system operation. Because at the time of this initial sampling the USEPA had not yet approved the PGCS-QAPP, Montgomery Watson decided to operate the treatment system in a batch mode and assumed the processing of each batch being equivalent to one day of system operation.

In a April 7, 1997, letter to the USEPA, Montgomery Watson described its batch-processing approach. Each batch of treated water would be temporarily stored in 20,000-gallon Baker Tanks. After the laboratory analytical results indicated that the discharge standards have been met, Montgomery Watson would notify the USEPA in writing before discharging the treated water to the wetlands. The treated water would be discharged to the wetlands by pumping it from the Baker Tanks back into the treatment system, through the effluent piping, and into the wetlands. In a April 10, 1997, letter to the Respondents, the USEPA approved the batch-processing approach as an interim measure until the formal approval of the PGCS-QAPP was granted.

The site water for the initial testing/sampling was pumped from the PGCS extraction sumps. Montgomery Watson collected a representative sample of each batch of the treated water which was collected over one- to two-day span and submitted for laboratory analyses.

Disposal of Construction De-watering Water

Construction de-watering water generated during activities associated with the construction and development of PGCS sumps was temporarily stored in 20,000-gallon Baker Tanks and passed through a granular activated carbon unit. After the effluent samples indicated that the discharge standards have been met, this water was discharged to the wetlands by pumping it back into the treatment system.

Construction of ACS Stormwater Collection System

The installation of the barrier wall surrounding the ACS facility makes it necessary for ACS to abandon the use of its existing fire pond. Abandoning the fire pond would minimize the stormwater infiltration and allow de-watering of the area within the barrier wall. Existing fire pond serves three purposes for ACS: (1) supplies water for fire control, (2) provides stormwater retention, and (3) is an important element of ACS's

spill control plan. To continue to serve these purposes, ACS decided to install a new stormwater collection system, and an engineered fire pond. In a September 30, 1996, letter to the USEPA, ACS described its plans and requested an approval. In a October 3, 1996, letter to ACS, the USEPA disapproved ACS plans for a new engineered fire pond. The USEPA indicated that the proposed location of the new fire pond was unacceptable since it was an area of known contamination and required ACS to look for an alternative.

On April 1, 1997, Midwest Material Services of Hammond, Indiana, a subcontractor to ACS, began construction of a stormwater collection system inside the ACS facility. The stormwater collection system consisted of three (3), 10 feet by 10 feet, concrete settling basins or tanks, a pair of 18-inch diameter, corrugated HDPE outflow lines, one 24-inch diameter, corrugated HDPE main inflow line, and a 12-inch diameter, iron runoff catch basin line. The outflow lines culminated in a drainage ditch located approximately 60 feet west of the west fence line. The main inflow line would direct flow from a new stormwater catch basin. The 12-inch line was connected to the main inflow line at a location just east of the settling tanks. Each settling tank was delivered to the site in two sections.

Construction activities began by excavating for the settling tank located at extreme west end of the tank system layout. The excavation was extended to approximately 12 feet bgs. The tank was set on top of a 6-inch gravel layer. Once the tank was in place, it was filled with water to prevent it from floating. The excavation proceeded east to set the other tanks which were also filled with water after being set in place. The tanks were cleaned out after the piping connections between the tanks were completed, the joint between two sections of each tank was sealed, and the backfilling activities were completed. The connecting pipes were provided with hydraulic seals. Strong odors were observed while excavating for the tank system. Occasional peaks as high as 30 ppm were indicated by HNu. A few buried drums and drum carcasses were encountered while excavating for the settling tank located at extreme east end of the tank system. An HNu reading of as high as 200 ppm was observed from these drums. The installation of the tank system was completed on April 4, 1997.

On April 7, 1997, field activities resumed to install the outflow lines from the tank system to the wetland drainage ditch. The depth of the excavation for the outflow lines varied from one (1) foot bgs at the discharge point to four (4) feet bgs near the western settling tank. Approximately 30 feet west of the tank system, a weir structure was installed in the path of each of the outflow lines. An existing 6-inch tile sewer line was also diverted through these weir structures. Installation of the outflow lines was

completed on April 10, 1997, except for a 20 feet stretch which penetrates the barrier wall.

On April 21, 1997, ACS took over the remainder of the construction activities and began excavating for the 12-inch runoff line and the main inflow line. The depth of these excavations was approximately four (4) feet bgs. ACS personnel encountered some additional drums while excavating for the main inflow line just east of the tank system. The HNu indicated a sustained reading of 20 ppm from these drums. In this same general area, strong paint solvent odors were also observed. ACS completed the installation of the 12-inch runoff line and the main inflow line on May 12, 1997.

On May 21, 1997, ACS began excavating around the barrier wall to complete installation of the outflow lines through the barrier wall. ACS personnel installed the outflow lines by cutting a hole, one for each line, in the barrier wall HDPE panel and welding an HDPE sleeve onto the wall.

By the end of this reporting period, ACS had completed the installation of the new stormwater catch basin and hooked up the main inflow line. Based on the construction plans submitted by ACS, it appears that a few more of the runoff lines remain to be installed in the near future.

Spoils Handling

Excess soils generated during the construction of ACS stormwater collection system were relocated to the Upper Aquifer Spoils Management Area. Municipal waste/debris was encountered for a stretch of approximately 20 feet and to a depth of approximately 4 feet bgs while excavating for outflow lines approximately 100 feet east of the fence near Station 27+00. All of the municipal waste/debris was excavated and placed in the northwestern corner of the Upper Aquifer Spoils Management Area. The municipal waste/debris was kept segregated from other spoils in the Upper Aquifer Spoils Management Area.

All buried drums encountered during construction of the stormwater collection system were temporarily staged nearby and covered with plastic. All drum carcasses were left aside to be managed later in accordance with the Spoils Management Plan.

Construction de-watering water generated during these activities was temporarily stored in ACS storage tanks for subsequent treatment and disposal.

Sampling of ACS Facility Well ATMW-4D

On April 2, 1997, at the direction of USEPA Work Assignment Manager (WAM), Ms. Sheri Bianchin, BVSPC conducted independent sampling of the ACS facility well

ATMW-4D located just inside the ACS entrance on the west side, in the vicinity of Station 29+00. This well was never sampled during any of the past investigation activities. The objective of this sampling was simply to evaluate the groundwater at this location with respect to the known groundwater contamination at the site.

A rinsate blank sample was also collected at this location in accordance with the QA/QC requirements.

Sampling, sample handling and chain-of-custody procedures were followed as outlined in the Amendment 1 of the Revised Mini-Quality Assurance Project Plan, Revision 4, April 9, 1997, prepared by BVSPC. All samples were submitted to the Central Regional Laboratory (CRL) in Chicago, Illinois, for full-scan (TCL/TAL) analyses.

Residential Well Drinking Water Sampling

Given the recent information regarding the offsite contamination, the USEPA, in a March 3, 1997, letter to the Respondents, required the Respondents to sample all residential wells on Reder Road and other residential wells located on Arbogast Street and Avenue H which have not been sampled previously.

Montgomery Watson initiated the residential well sampling on March 31, 1997, and completed the sampling activities on April 1, 1997. The sampling, sample handling and chain-of-custody procedures were followed in accordance with the Private Well Sampling SOP included in the Pre-Design QAPP dated August, 1995. All samples were submitted to the analytical laboratory for full-scan (TCL/TAL) analyses.

Residential Well	Comments
420 Avenue H	No water softener.
1014 S. Arbogast	No water softener.
1016 S. Arbogast	The well is 10 years old and 50 feet deep.
1008 S. Arbogast	Have water softener; sampled from the spigot located at the south side of the house.
739 S. Arbogast	Have water softener; sampled from the spigot located up a flight of stairs above the office.
1029 Reder Road	Sampled from the spigot located on the west side outside the front door.
1009 Reder Road	Sampled from the spigot next located to the front door.

1007 Reder Road	Sampled from the spigot located on the west side of the house.
1043 Reder Road	Sampled from the spigot located near the back porch on the west side of the house.
1130 Reder Road	None.
1033 Reder Road	Sampled from the spigot located at the back of the house; the well is 1 year old and 75 feet deep.
1046 Reder Road	Have water softener; sampled from the spigot located in the basement.
1026 S. Arbogast	Have water softener; sampled from the kitchen tap.

BVSPC personnel collected split samples at following five (5) locations: 1007 Reder Road, 1009 Reder Road, 1029 Reder Road, 739 S. Arbogast, and 1026 S. Arbogast. Split sampling procedures were followed in accordance with the Revised Mini-Quality Assurance Project Plan, Revision 4, April 9, 1997, prepared by BVSPC.

Miscellaneous Activities

During installation of the slurry wall near the south-east corner of the Onsite Containment Area, HTI and Montgomery Watson personnel experienced strong, pungent odor which did not appear to be causing any adverse health effects. The odor was persistent even after the backfilling activities were completed. As a precautionary measure, Montgomery Watson collected an air sample in this area on April 21, 1997 and submitted for laboratory analysis.

On April 22, 1997, Montgomery Watson personnel, while walking around the site, noticed an underground storage tank (UST) located just outside the main entrance to the Offsite Containment Area along Colfax Avenue. The UST vent pipe was sticking out of the ground. Field measurements indicated that it was a small UST, probably less than 300-gallon capacity. The UST, however, did not appear to be in the way of barrier wall alignment.

On April 25, 1997, ACS personnel conducted three (3) test pits, approximately four (4) feet bgs, north of the existing fire pond and adjacent to the existing fire pump house. In a April 23, 1997, letter to the USEPA, ACS had described its plan to construct an aboveground water storage tank in this area. The water tank would provide water for fire control after the existing fire pond is eventually closed. The purpose of the test

pits was to visually verify that waste material was not located in the proposed water tank location.

On April 29, 1997, ACS personnel replaced the 12-inch diameter culvert pipe, located downstream of the discharge point of the new stormwater collection system, with a 24-inch diameter pipe to accommodate higher flow.

On May 15, 1997, Youngs poured a concrete pad around the PGCS valve assembly.

Problems Encountered/Corrective Actions

Problems encountered during barrier wall installation activities have been described above in detail.

Montgomery Watson completed the second quarter groundwater sampling of upper and lower aquifer monitoring wells during the week of March 24, 1997. On March 31, 1997, Montgomery Watson learned that some of the shipping coolers containing the samples never reached the laboratory, and apparently, had been lost in the transit. On April 2, 1997, Montgomery Watson initiated re-sampling of the monitoring wells whose samples had been lost. These wells included the upper aquifer wells MW-6, MW-15, MW-45 and MW-49, and the lower aquifer well MW-9. The re-sampling activities were completed on April 3, 1997.

On April 8, 1997, during the construction of the ACS stormwater collection system, ACS subcontractor accidently damaged the BWES conveyance piping while installing the outflow lines from the tank system to the wetland drainage ditch. Montgomery Watson personnel worked with the subcontractor crew and re-fused the piping together.

On April 16, 1997, Montgomery Watson was notified by the laboratory that they had received the effluent sample, collected for Day 4 of the treatment system operations as part of start-up sampling, six (6) days late and the temperature of the sample was recorded at 16°C. Montgomery Watson operated the treatment system an extra day to collect an effluent sample for Day 4.

Future Work Schedule

Following construction activities are planned at the site through August 1997:

- Complete barrier wall installation and extraction trench 14.
- Install and begin gauging piezometers associated with BWES.
- Bring all barrier wall extraction trenches on-line.
- Continue to test discharge from the treatment system.

- Continue to gauge PGCS level-monitoring piezometers in order to determine what the long-term drawdown and inward gradient are in the PGCS extraction trench.
- Conduct Pre-final inspection of the PGCS and BWES (to be conducted by the USEPA).
- Conduct Low Temperature Thermal Treatment/Materials Handling Pilot Study.
- Conduct Air Sparging/Soil Vapor Extraction Pilot Study.
- Construct 4-inch water line inside the ACS facility to replace the production wells (to be completed by ACS personnel).
- Abandon six ACS production wells, MW-35 and MW-54.

Following investigative activities are planned at the site through August 1997:

- Conduct third quarter groundwater sampling.
- Sample all six (6) of the ACS production wells before abandonment.
- Conduct additional investigation/sampling to evaluate lower aquifer contamination indicated by MW-9.
- Installation of a new monitoring wells to replace MW-35 and MW-54.

Comments

At the time of writing of this report, following tasks remain to be completed by Montgomery Watson:

- The soil cuttings generated from drilling through the upper saturated zone at well locations MW-54/MW-55 should be placed in drums. The soil cuttings were left in place near the wells.
- The new monitoring wells should be permanently labelled as soon as possible.
- All drums encountered during so far during various site activities have been staged at different locations in the Onsite Containment Area and the Offsite Containment Area and temporarily covered with plastic. These drums remain to be handled and relocated in accordance with the Spoils Management Plan.

Signature: _____ Date: 6-13-97

3/31/97 Robert Tong

0715 Arrived onsite sunny 50°F

0830 Arrived at well N located at Michael Covach 420 Avenue H 924-5563

0845 After purging from the kitchen tap for approx 10 min they began sampling. The owners stated that they didn't have a water softener and are on a septic system

0930 Arrived at 1014 S Hagadorn Michael Babst

0945 They collected water samples after purging water for approx 10 min The resident stated that she did not have a water softener Dorothy Neyhart (well # 89 of the EDR well survey in the LA Tech memo) stopped by saying she'd like her well tested. Montgomery-Watson will speak to Pete Vagt to see if they will add the well

1000 We stopped at the Key Bank They said the well was approx 10 years old and 50 feet deep Neyhart is 1016 S Hagadorn

1050 Arrived at 1008 S Arbogast

1054 They have a water softener so they purged water from a spigot located at the south side of the house

1104 After purging the water for 10 minutes we began sampling

1114 Completed sampling

1145 left to lunch

1245 Returned from lunch

1410 Arrived at Aero Met Industries Hooked up a garden hose at a spigot up a flight of stairs above the office - The spigot appears to be just prior to the water softener

1415 Began purging water

Note: There is some question whether the water sample location is before or after treatment M-W walked around with the owner on 3-28-97 and determined this to be the best location

1430 Began sampling

1450 Completed sampling

1510 - 1540 Picked up ice

1610 Arrived at 1029 Keefer Rd Melanie Sharp residence Began purging from spigot on outside of house on east side next to front door

1626 Began sampling

1636 Completed sampling

1715 Arrived at 1009 Keefer Rd Mr James Garner Est Residence Began purging from the spigot next to the front door stoop

1720 Went to 320 Avenue H to let CC them we went to sampling the well it had been sampled previously

1730 Began sampling

1745 Completed sampling

1750 Dropped samples off at the groundwater treatment bldg

1800 Left site

Robert Lot

3-31-97

4-1-97 Robert Fox

0700 Arrived on site
0745 Arrived at 1007 Reder Rd
0750 Began purging from spigot on west side of house
0805 Began sampling
0815 Completed sampling
0850 Arrived at 1043 Reder Rd
Began purging from the west side of the house near the back porch
0905 Began sampling
0915 Completed sampling
1000-1050 Participated on Fox Colo conference call
1110 ~~Beg~~ Arrived at 1130 Reder Rd
1115 Began Purging at the westernmost house
1130 Began sampling
1145 Completed sampling
1200 Left for lunch
1300 Returned from lunch
1310 Arrived at 1033 Reder Rd
Frank Floyd residence
Began purging the water from the spigot located at the [illegible] of the house

1330 Began sampling. The owner said that the well is only one year old and is approx 75 ft deep
1340 Completed sampling
1350 - 1450 Helped Ashok fill out paperwork
1515 Arrived at 1046 Reder Rd
1520 Began purging from a spigot in the south end of the basement. The flow was diverted around the softener
1530 Began sampling
1545 Completed sampling
1620 Arrived at 1026 South Arlogust
1630 Began purging. We bypassed the water softener. We will sample from the kitchen tap
1645 Began sampling
1700 Completed sampling
1715 Left site

Robert Fox 4-1-97

NOTE:
1600 Shey Brandin and I collected SW02 from the south side of the entrance drive. Groundwater seep
RML 4/2/97

0830 on site.
Weather: sunny, 35° F
Meet up with Sheri & Peter. Bill is not on site today. Sheri said residential well sampling has been going well so far. Told Sheri about problems with sample delivery last week.
0900 Called Bill Seargent @ USEPA to check if samples received late were OK. He said samples were fine and cool enough. Sheri said even MW had problems with their sample shipments. So they are going to re-sample some of the wells. Sheri said since the split samples were OK there is no need to re-split them.
0930 ACS storm water system construction #21 begins.
1045 Approx. 15 foot deep excavation was #22 done to install the first manhole
1130 #23 Putting the bottom half of the tank.
1215 Break for lunch
1250 Back to the site - Begin taking and labelling the first residential

Ashok Rupani 4-1-97 — 40

well split samples collected so far.

(20)	PW-I	3/31/97	515	GW15	1430
	S-150063-64				
	S-150072-75				
(21)	PW-C	3/31/97	516	GW16	1626
	S-150076-81				
(22)	Trip Blank	RDG	4/1/97	RDG	1358
	S-164784-85				
(23)	PW-B	3/31/97	517	GW17	1730
	S-150084-89				
(24)	PW-A	4/1/97	518	GW18	0805
	S-150001-06				

1500 Leave for CRL

1645 Drop off samples at CRL and head home.

end

Ashok Rupani 4-2-97 — 41

0700 On site

Weather: Sunny, 50 °F

Civ. inside ACS plant Stormwater construction is going on. MMS is still struggling to place the first tank in place.

0720 Meet up with Bal and Rob. They are to wrap up residential well sampling and ATMW-4D sampling today. Gave a copy of mini-WAPP to Rob.

0740 Rob came back with the comment that mini-WAPP procedure was different from the SOP followed by Montgomery Watson. I called them to discuss it. We decided that mini-WAPP should be changed to reflect that.

1000 Bal and Rob get set up to sample ATMW-4D

1025 #1 EW18 completed by HTI

#2 EW17 completed by HTI

1040 MMS placed the first tank in place #3 Placing water in the tank to keep it from floating.

Ashok Rufdani 4-2-97

1140 MMS continues to excavate for second tank. The first tank has not been completely back-filled. Some joint work still needs to be completed. All three tanks will be back-filled later. No excess spoils have been transported over to UA spoils area. ACS design engineers (HEC) also on site.

#4 1150 Excavating for second tank. Some sloppy soils are being mixed with dry soils prior to transportation.

1215 Break for lunch

1300 Back to the site. Help Bal pack all the stuff. He and Rob just got done sampling at ATMW-4D. Rob leaves for CRI.

1325 Phil Smith of MW is onsite today to evaluate the extent of damage on MW35

#5 MW-35 was apparently hit by heavy equipment as evidenced by the damage.

Ashok Rufdani 4-2-97

1350 Complete excavating for second tank. Ken of MMS is conducting air monitoring with HNu and drager tubes.

1415 Tom Frohman stopped by. He said only a small volume of excavated soils would need to be taken over to the UA spoils area. The rest would be put back in the hole.

#6 1435 Loading soils into the haul truck for transporting to the spoils area.

#7 1445 Placed the bottom half of the second tank

#8 1455 Fire Pond

#9 1505 ACS stormwater construction

1515 Placing the top half of the second tank.

1520 Garrett of HTI says they are getting ready to do some manholes for EW10, EW17 and EW18

1535 Begin excavating to install EW10

#10 Manhole

1600 MMS stops for the day

1650 Leave site

End

4-02-97

0652 BAL ARRIVED SITE

WEATHER: SUNNY, WIND CALM

LOW 40'S

TIME	WELL#	PH	CON	TEMP	TURB
1451	MW45	7.24	541	9.44	109
1452		7.19	542	9.23	83.9
1453		7.14	489	9.50	49.1
1454		7.08	476	9.75	38.1
1455		7.02	437	10.33	30.8
1456		6.99	2.21?	10.74	21.1
	WATER FLOW STOP DUE TO OVER CURRENT				
1501		6.95	754	9.14	29.0
1502		6.97	635	9.46	22.4
1504		6.73	660	8.92	16.7
1505		6.62	678	8.99	14.9
1507		6.63	657	9.46	13.8
1508		6.54	657	8.84	12.0
1509		6.52	641	8.87	10.2
1510		6.58	585	9.14	11.5
1511		6.65	524	9.16	10.9
	SAMPLE COLLECTED @			1511	

4-02-97

TIME	WELL#	PH	CON	TEMP	TURB
1641	MW9	6.62	1240	12.45	129
1642		6.58	1268	12.26	164
1645		GENERATOR STOP, OVER CURRENT			
1652		6.58	1354	13.91	158
1653		6.57	1359	14.07	131
1654		6.56	1365	14.09	128
1655		6.52	1368	14.10	130
	SAMPLE COLLECTED @ 1655				
1728	BAL LEAVED SITE TO WAREHOUSE.				

4-2-97 Robert Land

0720	Arrived on site overcast 50F			
0730-0800	filled out paperwork			
0815	Collected trip blank TB11			
0830-0930	Bought ice, distilled water baggies and paper towels			
1030	Fed Ex dropped off poly tubing			
1050	deconned pump, tubing			
1100	Collected rinsate blank sample			
1120	Opened ATMW-4D well			
	Water level is 13.65 ft BTOC			
	T	pH	cond	Turb
1142	60.9 F	7.6	1041	104
1145	61.1	8.0	1043	118
1148	61.2	8.3	1040	72.5
1151	60.4	8.3	1026	72.4
1154	62.9	8.0	1072	63.9
1157	64.5	8.0	1088	58.2
1200	64.5	8.2	1092	57.3
1203	64.9	8.0	1100	54.7
1210	Began sampling			
1225	Completed sampling			
1300	Left site			

Robert Land
4-2-97

LEGEND

Well Number	Well Location (Address)
PW-A	1007 Reder Rd Mr Hansen
PW-B	1009 Reder Rd Mr Isaman
PW-C	1029 Reder Rd Ms Sharp
PW-I	Acromet 739 S Arbogast
PW-L	1026 S Arbogast Kevin Burnett

0900 Onsite
Weather: sunny, 55°F
HTI has not yet placed the manhole at EW10. The area was caution-taped off overnight.
0905 MMS has almost completed #11 excavation for the third tank. Ken of MMS is conducting air monitoring.
0915 Work stops temporarily due to periodic HNu spikes of up to 30 ppm. The benzene and vinyl chloride dragger tubes did not show any reading. The crew will now upgrade to level C until backfill activities are complete.
0940 Garrett of HTI indicated that there were confusions about the base material for the manhole. Montgomery Watson is in the process of working out details.
1000 Go into the trailer to attend the weekly meeting.
1040 MMS continues to work in level C.

1045 Tom Fruhmann said that sometime this morning, they uncovered couple of drum carcasses which have been placed aside on top of a plastic. Readings of about 200 ppm were noted from these drum carcasses. Some of the surficial soils excavated from this area also indicated 200 ppm.
1100 #12 Placing the bottom half of the third tank.
1115 #13 & Drum carcasses encountered
#14 during excavation.
1138 #15 Placing the top half of the third tank.
1214 Break for lunch.
1310 MMS continues to do installation inside the ACS plant.
1330 Begin placing the sealing mastic around the joints of the tanks.
1605 Leave site.

end

4-03-97

0645 B&L ARRIVED SITE. LILIAN & MARK (MW)

WEATHER: PARTLY SUNNY, LOW 50's

WIND CALM

TIME	MW #	PH	MS/CM CON	TEMP	TURB (NTU)
0801	MW 49	6.33	.290	7.21	72.8
0802		6.45	324	7.48	68.2
0803		6.52	341	7.91	62.1
0804		6.56	357	8.35	51.5
0805		6.59	362	8.56	42.7
0806		6.60	365	8.74	43.2
0807	↓	6.61	369	8.87	42.3

SAMPLE COLLECTED @ 0807

MW 15

0940	MW 15	7.57	792	9.78	104
0941		7.56	725	9.00	45.2
0942		7.37	708	8.84	32.3
0943		7.30	697	9.01	26.4
0944		7.24	679	9.30	25.4
0945		7.10	707	9.68	22.8
0946		7.04	702	9.84	21.2
0947	↓	7.01	704	9.93	19.4

SAMPLE COLLECTED @ 0947

1025 MW 06 WATER LEVEL ~~MW 06~~ 20.60

4-03-97

TIME	MW #	PH	CON	TEMP	TURB
1037	MW 06	6.81	2300	13.73	117
1038		6.81	2490	13.51	49.4
1039		6.82	2531	13.85	26.3
1040		6.82	2517	14.24	22.0
1041		6.82	2501	14.61	20.1
1042		6.81	2479	15.02	17.1
1043		6.80	2457	15.24	16.7
1044	↓	6.79	2437	15.42	16.4

SAMPLE COLLECTED @ 1044

0900 On site
Weather: sunny; 55°F
MMS completed the scaling forces and is currently trying to pump all the water out of the tanks and excavation. The connecting pipe between the central and east tank would be changed since it appears to be leaking. Tom Frahman of ACS said MMS will stop for the day after changing the connecting pipe and backfilling the excavation.

1005 Kevin of HEC, ACS's engineering consultant said that the connecting pipe will not be changed instead they will provide concrete support to the pipe which would not let the hydraulic seals support the pipe hence causing the leak.

1030 Installing a connecting pipe #16 between first and second tank

1045 #171 begins to install manhole at EW10.

#17 Placed some pea gravel and fine bottoming the excavation

1130 #18 Placed the manhole at EW10

1200 Break for lunch

1245 leave to go to Chevy dealership for truck repair

1520 Back to the site. MMS continues to backfill the excavation. All piping connections have been completed.

1535 HTI is in the process of installing backer wall. Mark of HTI told me they are currently just placing the slurry wall without the liner. Will check with Ben about this.

1630 #19 MMS completes the backfilling activities.

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1645 #20 Completed manhole installation at EW1D

1650 #21 completed manhole anstallation at EW18

1700 Dismussed with Todd about change in installation process for barrier wall. He said the wall installation will be conducted in 2 steps. Firstly, only shoring wall will be installed. This step will clear away obstructions for step 2 which will involve installation of HDPE

1715 leave site

end

Ashok Rupani 4-7-97 49

0900 On site

Weather: sunny, 40°F

ACS stormwater construction is in progress. HTI has installed manholes at EW17 and three other extraction wells in the OFCA. They have installed the shoring wall upto south of the OFCA entrance.

0950 Called Steve and gave him an update.

1130 #3 Installing 18" line west of the tanks.

1100 HTI has not yet resumed work on the barrier wall.

1150 Break for lunch

1245 Back to the site.

1250 ACS stormwater construction is in process. Tom indicated they have pumped lot of ground-water during placing of tanks. There are still excess spoils which need to be transported to OFCA.

1325 HTI has not yet resumed barrier wall.

1350 Meet up with Ben to find out what's up with HTI. He said HTI is going to move over inside the plant and resume slurry wall construction. It will be prob'ly tomorrow afternoon before they can get started.

1405 Ben gave me printed table showing status of all water storage tanks currently onsite. Right now there are a total of 7 20,000-gallon tanks.

#4 1430 Installing an 18" lines and stormwater control manholes

#5 1440 Excavating for 18" lines

1540 NMS is done for the day. They still have manhole installations and pipe connections to make before proceeding with excavation

1600 HTI is making preparations to move over inside the plant

1610 Leave site

end

0700 On site

Weather: Cloudy; 32°F

NMS is still in the process of installing their structures and piping connections to the settling tanks. An existing sewer line which must pass through the new structures has also been repaired along the way.

1000 HTI is in the process of excavating inside the plant for the existing and old out-of-service gas and water lines

#6 1030 Digging up old gas lines

#7 1055 Digging up old gas lines and water lines

1120 I noticed two additional 20,000-gallons water tanks onsite today. There are a total of 9 tanks onsite.

1125 Lee told me that 72-hour site water testing started yesterday afternoon. He said after locating all utilities, HTI will backfill the excavations.

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1135 HTI begins to back-fill
1150 Break for lunch
1245 Back to the site.
1310 MMS continues to excavate further south/west towards the wetland and lay the pipe
1400 #8 Laying 18" lines for stormwater project
1410 #9 About 100' from fence where the 2nd run of the lines is to be placed, lot of debris has been excavated. Some steel sheeting / carcasses were also uncovered. I told MMS that the soil/debris can go to spoils area whereas the carcasses should be handled separately.
1420 MMS informed that both 1" and 2" lines installed by YECI have been accidently mapped at this location.
1435 Lee comes by with equipment to repair the lines.
1510 #10 Repairing the 2" line
1600 MMS stops for the day

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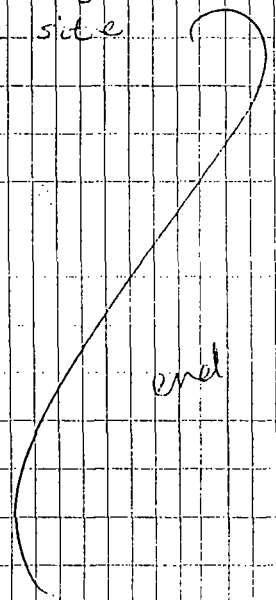
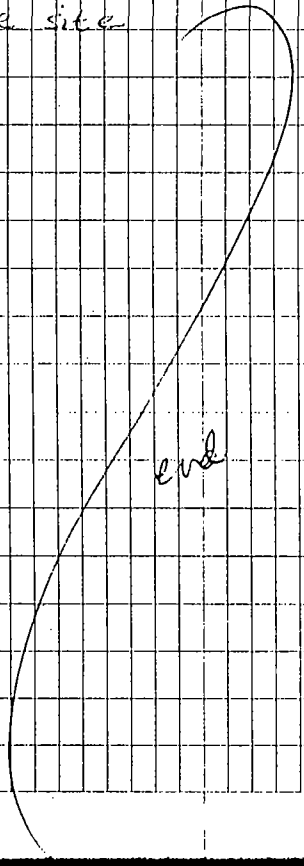
1605 Go over by HTI. They are still in the process of setting up inside the plant. While digging for utilities, water was encountered partly groundwater and partly from old abandoned septic lines. A new baker tank is onsite to be used to pump this water out. The water line would be re-routed before backfilling.
1615 Leave site



0930 onsite (late due to traffic delays)
Weather: snow, 32°F
ACS stormwater construction is on hold Ken of MMS told me that due to some invoice disputes, he is leaving the site until disputes are resolved. HTI started constructing slurry wall at the south-east corner of the plant.
1040 #11 Installing the slurry wall just east of the ACS office bldg. (Looking west)
1130 #12 Continue to install slurry wall inside the plant (looking east)
1200 Complete 100' of slurry wall. Break for lunch.
1300 Back to the site. HTI is setting up to resume.
1310 Ben said that 72-hr test will end tomorrow afternoon. The treated water is being stored in baker tanks. He also indicated that MMS would be back

tomorrow to finish the stormwater project.
1400 #13 Continue to install slurry wall (looking east)
1520 HTI continues to install slurry wall and are about to take turn from the Colfax-bound west.
1710 Leave site



0900 On site
ACS stormwater construction in in progress
#14 MMS working near the fence. Soils/debris excavated from this area would be transported to UA spoils area. I indicated to Kevin of HEC that soils, concrete debris and drum carcasses should be managed in accordance with the spills plan.
1000 HTI continues to install slurry wall inside the plant.
#15 Installing slurry wall
#16 Excavating & placing dry bentonite behind the slurry wall installer
Tom Frohman said that the portion of stormwater piping running across barrier wall alignment would be installed only after barrier wall is completed.
1117 Excavating for stormwater piping

near the fence.
1135 Break for lunch
1225 Back to the site
1245 #18 Taking the railroad tracks out for barriers wall installation
1300 #19, #20 Installing stormwater piping outside of the fence and going to the drainage ditch.
1315 #21 Placing concrete pad adjacent to the peroxide tank.
1325 Run over by HTI
1330 #22 A number of drums, some partially filled, were encountered just across the load/unload pads upfront. Partial trenching was done to find out the extent of drums along the barrier wall alignment. Approximately 70' stretch was left alone to conduct drum removal later.
1355 #23, #24 Setting up the barrier wall trenches just west of the drum area
All drums uncovered so far (#12 or so)

have been temporarily covered with plastic.

1415 Discharge point for the ACS #25 stormwater piping

1430 MMS continues to backfill the excavations

1435 spoke with Lee about the drum area. Lee said couple of drums were uncovered in the same general area by MMS during pre-trenching. He said that this drum area has been known to extend several feet north of the barrier wall alignment.

1450 MMS begins to backfill.

1550 HTI continues to install the slurry wall.

1610 Temporary holdup due to equipment trouble

1615 continue slurry wall installation

1635 leave site

end

0900 on site

Weather: snow, 32°F

HTI is on a hold due to some equipment problems. They are currently cleaning up and hauling off excess spoils generated during the slurry wall construction inside the plant so far.

ACS stormwater construction is shut down for the day. Some pipe fittings will arrive today. Work will resume on Monday 4/11/97. MMS has completed piping (2 - 18" lines) west of the settling tanks.

1140 Met up with Ben. He said HTI is changing a few teeth on their trencher and will begin soon. When I asked about the drum area, he said hopefully sometime next week. They would have YECI out to remove the drums along the barrier wall alignment.

1005 Talked with Lee Grant Health & Safety man. He said he has a comprehensive health & safety briefing

every week and also discussed on-going decon procedures during equipment movement in and out of the plant.

1040 HTI completes cleaning up the area just outside the ACS bldg.

1050 Begin logging field photos collected few weeks ago.

1135 Break for Lunch

1225 Back to the site

1240 Called Steve and Sheri for update and discussed few issues such as ACS production well sampling, drum removal activities, etc.

1300 HTI trying to work on pre-excavating some debris along the barrier wall alignment west of the fire pond. Excavated material is being taken over to UA spoils area. I asked Lee if that's O.K because the conditions are pretty wet and the haul truck may drag some of the dirt around. I told this may not

be the right time to do it. So he said he will have them stockpile the excavated materials by the side and haul them on a diff day.

1330 Ben gave me a schedule for next week and left site. He will be out on vacation all of next week.

1400 Lee told me they are going to get rid of the trailer next week or soon.

1500 Fax Steve the schedule given by Ben.

1520 Lee said HTI has about 4 or 5 hours of more slurry work to go before they are down for some set up work to begin installing the poly wall starting from northmost corner of DFCA.

1530 #1, #2 Pre-excavating for slurry wall

1545 #3 Excavating to expose water line.

1615 Leave site

End

Ashok Rupani 4-14-97

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0900 On site
Weather: sunny; 40°F
Met up with Todd. Ben is on vacation this week. HTI continued their slurry wall construction on saturday 4/12/97 but towards the end of the day they hit a big piece of rock which destroyed the trencher. HTI has been working on fixing the trencher since yesterday. It will be at least wednesday or Thursday before they begin trenching again. Before the breakdown, they had advanced to just before the water line.

0925 Todd told me they are going to discharge some effluent based on EPA 4/7/97 approval letter. I asked Todd if the approval agreed to treated water in specific tanks or was it a approval for discharge of all effluent from here on out based

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on whether approved discharge standards are being met or not.

0945 HTI will be setting up to install manholes at the extraction wells in the OECA. Griffin Dewatering Corp. of Hammond, IN is on site conduct dewatering operations near the sewer lines to the south of the ACS plant.

0955 Go over inside the plant to see if MMS is working. I did notice activities going on. Tom Frohman stopped by and said he had cancelled the contract with MMS. He would have some other contractor come out next week and thinks the new MMS will be in later today to relocate the spoils over to the OECA.

1040 HTI is trenching up in the north-west corner of OECA to set ready for trapper wale.

1100 MMS is on site and begins to relocate the spoils.

1130 Todd gave me a copy of April 7, 1997

letter to EPA requesting discharge of treated water. Called Sheri and left a message.

1200 Break for lunch

1245 Back to the site. HTI is setting up to do manhole installation at EW16.

1255 #5 hears of metal dug up during ACS stormwater construction project

1310 #6 HTI fixing the carrier wall trencher

1325 HTI continues to build a bench in the NW corner of DFCA

1340 MMS continues to relocate the spoils to UA spoils area.

1345 #7 HTI conducting bench-up operations in the NW corner of DFCA.

1435 #8 HTI installing manhole at EW16.

1500 Meet up with Todd. He said HTI is looking into options of either excavating to clay prior to trenching or getting a bigger

piece of equipment. This would avoid any further breakdowns.

1530 Based on a message I received from Sheri Branchini of EPA, I told Todd that the April 10, 1997 approval was limited to the extent as described by Montgomery Watson's April 7, 1997 letter to EPA. Todd said he was under the impression that it was a comprehensive approval but he said that now he will wait to discharge additional treated water until further discussions

1620 Leave site

end

0900 Onsite
weather: Sunny, 50°F
HTI is still working on the trencher. Will start around lunch time.
#9, #10, #11 Griffin Dewatering Corp (GDC) has installed a dewatering system at the northwest corner of ONCA.
0950 #12 Installing dewatering system in front of the ACS plant bldg.
1025 Leonard of MW told me that the last and third sample from the 72-hour testing was lost and reached the lab 6 days late and temperature at 16°C. I said MW has to come with a approach for remedial measures and notify EPA of the steps taken.
1050 Lee told me Phil Smith of MW was onsite late Monday to survey the PGCS trench area to set up for installing piezom-

-eters scheduled within next couple of weeks.
#13 Completed installation of dewatering system.
1150 Break for lunch
1245 Back to the site
1300 HTI begins installation of slurry wall in the northwest corner of ONCA.
#14, #15, #16 Slurry wall installation in the northwest corner of ONCA
1350 Tom Froman stopped by and informed me that he is going to install a 100,000 g fire control tank just north of existing fire pond. Little excavation would be required but no excess spoils would be generated.
1400 HTI continues to install slurry wall
1430 Bentonite hose breaks down.
1450 Slurry wall construction resumes
1645 HTI continues to install slurry wall

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1640 HTI stops for the bentonite feed.

1650 HTI resumes slurry wall construction

1710 HTI will continue for a little more time

1720 leave site

end

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0900 on site

weather cloudy, 40°F

Lee told me just before the end of work yesterday, HTI stopped slurry wall construction due to presence of rocks. This happened near the fire hydrant. They have about 100' sections where rocks are present. Lee said the plan of action from here on out is going to be discussed in the weekly meeting this week. Currently HTI is dry declaring the trencher, cleaning up and transporting excess spoils over to UA spoils area.

0930 Weekly meeting is going on inside the trailer waiting for Chris Brown of IDEM.

0940 Meet with Chris, Joe Adams began talking to Chris and giving him a city site history and on-going activities

1030 Go for a site drive through with Lee and Chris.

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1210 Complete site walkthrough with Chris.
1320 Break for lunch
1315 Back to the site.
Explained to Chris all the current issues which have topics of discussion e.g. upcoming drum removals, PGCS piezometer installation, discharge of treated water, replacement of MW-54 & MW-35, etc.
1415 Meet up with Todd. Todd indicated he is going to discharge 72 hr treated water as soon as he gets the lab results back. He said they are not required to get EPA approval as long as they are following the QAPP and discharge standards are being met. I said I would talk to Sheri and verify that.
1500 Leave site to get some work done on the van. HTI will start barrier wall tomorrow.
end

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0900 Onsite
Weather: sunny, 40°F
HTI is still setting up. Will start barrier wall installation right after lunch.
1030 Talked with Sheri about discharge issues. She said she was also not sure what MW's schedule for discharge is and whether QAPP requirements are being met.
1100 HTI says they will start right after lunch.
1200 Break for lunch
1300 Back to the site
HTI appears to be not even close to starting up. Catch up with Lee and asked him if he can find out what's up.
1330 Lee is still over at HTI's.
1445 Lee came over and said HTI will not be able to start until 5 PM.
1520 Leave site
end

0700 On site

Weather: partly sunny; 50°F

HTI apparently has not worked since Friday. Will wait for Todd and Lee for an update on HTI. They have gone to meet with them. ACS stormwater construction project has resumed apparently.

1005 ACS stormwater construction is in progress.

#17 Installing an 18" T-junction east of the third settling tank.

1140 ACS stormwater construction continues.

1205 Break for lunch.

1250 Back to the site.

1310 Meet up with Lee. He said HTI plans to resume barrier wall tomorrow. Also they will have another trencher within couple of days. Lee mentioned that during slurry wall construction outside the ACS

office building, a strong sour odor was noted. In spite of the back-filling activities since then, the odor persists in that area. So as a precautionary measure, MW has taken an air sample in the area and submitted to the lab for analysis.

1430 #18 ACS stormwater construction continues. A 12-inch bypass (or branch?) in being installed just north of the settling tanks. The bypass section is approx. 80' long.

1535 Backfilling the 12-inch line trench. ACS personnel are conducting this work today.

1610 Leave site

end

0900 On site
Weather sunny; 40°F
HTI is continuing to install barrier wall along Colfax.

0945 HTI stops to add a new poly wall roll.

1100 #19 A UST was found at this location. MW personnel taking in depth measurement. The UST appears to be very small in size and empty. However, the UST will not be in way of the barrier wall.

1110 #20 HTI changing the roll.

1140 Break for lunch

1230 Back to the site. Go over to the Acs plant. Acs stormwater construction is in progress.

#22 Installing 18" pipe east of the settling tanks.

#21, 23 Drums encountered during storm water system construction. Three were encountered this morning.

1330 HTI is still working on the joint.

1445 HTI begins to install barrier wall again.

1500 Stop again. The wall again pulled apart. Will start all over.

1530 Acs stormwater construction continues.

1550 #1, #2 Begin backfilling for the day. Will resume tomorrow.

1615 Tom Forman told me they got spikes of 200 ppm and sustained reading of 20 ppm. The odors in this area suggested likely paint solvents. The drums did not indicate any presence of VOCs.

end

1000 on site (Reached late due to Doctor's appt. in the morning)
Weather: 50°F, sunny
Meet up with Ben. He said HTI continues to repair the 6'x6' trencher box. The other trencher will go in the ground today or tomorrow morning. HTI in the past couple of days has completed plumbing of all manholes except EW14 which has not been installed yet.
1030 Ben gave me a copy of memo (sent to EPA) noting some clarifications on test methods, test parameters, etc. as requested by EPA. This is regarding effluent discharge.
1050 called Steve and Sherri with an update
1110 Ben said YEC1 is going to be onsite next week to finish up conveyance piping and

plumbing of the extraction wells
1145 Break for lunch
1238 Back to the site. HTI is working in the northwest of the DFCA and getting ready to set the Brenner well trencher in the ground.
1310 to meet up with Tom Froman. He said they have recently completed the stormwater piping installation except only connections by the Brenner well and connection to the main sewer. A 12-inch pipe was installed at two different locations to collect stormwater runoff from other localized areas. Remaining final connections will be made after Brenner well is completed.
1320 #3, #4 The 24-inch stormwater line was temporarily stopped and capped at the main sewer manhole location.
1330 #5 New fire tank location being described by Tom Froman.
1340 #6 Concrete encountered during stormwater construction project.

1345 #7 Drums encountered during stormwater construction project were temporarily covered with plastic.

1405 #8 HTI completed plumbing of EW10.
Tom Froman had also indicated that sometime in the next couple of weeks ACS would install water line to replace the ACS production wells which will be abandoned. Also, ACS would replace a 12-inch with a 24-inch pipe (culvert pipe behind the treatment bldg.) to go with 24-inch ACS stormwater piping.

1445 HTI has not put the trencher in the ground yet

1455 Meet up with Ben. Ben said it was very likely that HTI will not move the trencher today.

1510 Leave site.

end

0900 on site
Weather: sunny, 55°F
Meeting with Ben. HTI will set the trencher in the ground but will do so sometime this morning.

0932 Ben also indicated that he is working with Pete Veit to answer some of the EPA comments to MW's 4/28/97 letter regarding of treated groundwater.

1050 HTI continues to do some welding #7 and set up work with the trencher

1145 Break for lunch

1240 Back to the site

1300 ACS personnel begin to replace the culvert pipe across the ditch behind the treatment bldg.

1400 Ken stopped by and told me HTI would like to deploy the trencher tomorrow morning.

1415 Begin copying photos taken over the past 3 weeks

1500 Leave site

end

1000 On site. (Late due to traffic delays)
Ben told me this morning HTI began trenching work across the RR tracks along western leg of barrier wall alignment. ACS's Tom Froman had the RR tracks taken out yesterday. The trenching material was taken to the UASMA. HTI will start the barrier wall sometime this afternoon.

1045 C S Drilling Co. of Addison, IL also on site to do exploratory borings along the fence to the north. The objective of this drilling is to see what obstructions can be encountered if barrier wall was pushed further north close to the fence.

1110 Drilling crew was sent back because their medical monitoring records were not up to date.

1130 Ben told me PVCS piezometer installation may not begin tomorrow.

1140 HTI will plug both upstream and downstream sewer manholes and zip through the clay tile sewer line with the trencher. Dewatering will be done during re-hook up of the sewer line.

1150 Ben said he has only two water tanks left to be discharged. I asked Ben if he can give me a written summary of all water discharged so far from the treatment system.

1205 Break for lunch

1330 Back to the site. HTI is doing preparation up to do barrier wall.

1335 C S Drilling back on site with proper records and will soon begin drilling. Probably will drill to clay at 12 to 14 locations.

1345 #10, #11, #12 HTI completed trenching across the RR tracks, fence and

taken out. Benching was only 18 inches deep. The excavated material (part of it only) was kept aside to re-use as backfill. Some of it was taken to UASMA.

1400 Ben told me YECI can be onsite as early as tomorrow. They will install BWES conveyance piping across the RR tracks before that area is backfilled. They will also finish up connections to all BWES manholes in the next couple of weeks.

1430 Drillers are setting up near the ACS gate across the trailer.

1445 #13 Begin drilling near the ACS gate across the trailer.

1525 Begin backfilling with hole plug. Depth of clay = 18'. This boring was designated as TB-30

1530 HTI resumes barrier wall installation

1600 HTI wrecker is a few feet outside the fence and begins setting up to change the roll

1620 #14 CS conducting TB-31 just at the ACS gate near the trailer.

1635 Complete TB-31. Depth to clay = 21'. Some stones were encountered at the bottom of the hole. Soil cuttings are being left in place. Rock are picked by HTI later.

1645 HTI done for the day. They will roll an 80 foot roll tonight and attach that instead; so that they are about 20' or so from sewer line. HTI did not want joint to be located across the sewer line. Will resume tomorrow morning.

1648 #15 CS drillers begin work at TB-32

1710 leave site

0900 On site

HTI changed the drill this morning and after going about 30 feet across the RR tracks, they stopped and began dewatering in order to plug the sewer line. They will continue with the wall shortly after plugging the sewer line.

0910 CS Drilling at TB-33. Depth to clay = 17' High bkms count was noted for the clay.

#16 } HTI excavating/trenching
#18 } right behind the barrier wall trencher. The excavated soils are being temporarily stockpiled for re-use.

0930 #17 HTI installing barrier wall across the RR tracks.

0940 Dewatering water is pumped into a 20,000-gallon baker tank, passed through HTI's carbon filter and then passed into the treatment system before discharge.

0950 Ben came by and told me HTI has a different plan now. They are NOT going to rip through the sewer line. Instead, they are dewatering now so that they can pulled one section of the sewer line out, install the wall through that location; re-connect the sewer line with the help of a knot in the wall and backfill.

1030 Begin TB-34.

1125 Complete TB-34. Depth to clay = 16' Consistently hard clay encountered.

1130 HTI continues dewatering @ 5000 gallons per hour.

1135 During trenching, any soils which indicated some PID readings are being relocated to USASMA and not being placed in the stockpile.

1140 Begin TB-35. Depth to clay = 16'

1215 Complete TB-35. Depth to clay =

1220 Break for lunch

1310 Back to the site. CS is setting up at TB-36.

1415 Complete TB-36 Depth to clay = 16'
From TB-36 to TB-35, boring
#18 spacing was 50'. From TB-35
onwards, spacing would be 100'.
Borings are being placed in
clockwise direction around the
site beginning near the ACS
gate across the trailer. Borings
are being conducted with 2¼" ID
hollow stem auger. Split spoon
samples are being at 5' intervals.
Closer to anticipated depth to
clay, split spoon samples are
being collected continuously.
1430 HTI has taken the sewer line
(northwest corner of ~~ONSEA~~/OFCA)
AKL 5/7/97
out of service and backfilled the
area. Will shortly install
the barrier wall in this area.
1445 CS setting up at TB-37
1500 HTI resumes barrier wall
#19 installation across the RR
tracks.

1540 Complete TB-37 Depth to clay = 16'
1545 Begin setting up at TB-38.
1600 HTI finishes up the roll and
begin setting up to change the
roll.
1605 Starts to rain.
1615 Called Steve and gave him an
update. He will fill in for me
tomorrow and Friday.
1620 Called Sheri Her voice mail box
was full so left a message with
Steve requesting to send an email
with the update.
1635 Ben gave me hand-written copy
of summary of water batches
discharged to wetlands through
the treatment system as of
5/8/97
1640 HTI resumes barrier wall. Will
try to finish this roll as much as
possible before calling it a day.
It continues to rain.
1700 CS completes TB-38. Looks
like they are done for the day.
1725 Leave site

End

SMuhl 5-8-97

0815 Arrive at site. Talk to Ben McGeachy, Lee Orsorn, and Todd Lewis about progress to date. Weather is cloudy, 60°F, wet. Activities include borings along new proposed Barrier Wall alignment inside fence at northern side of the active ACS plant and installation of the Barrier Wall at the western side of plant at the Northern side of the Railroad tracks.

0830 Walk over to barrier wall installation site. HTI is changing a new roll of HDPE into the trencher box.

0900 Wait until weekly construction meeting begins. Agenda is passed out to everyone and meeting last until 1000.

1000 Walk over to drill rig that's doing borings along new BW alignment. Along Colfax South of plant gate. They are doing the 5th and last

SMuhl HTI

boring of the day. Logger says all of the bore holes hit clay at 15 to 16 feet bgs. Water at about 5 feet bgs. Drill rig is Diamec D-50 Turbo; C.S. Drilling, Addison, IL.

1025 Top clay at 17 feet bgs at TB-44. Sun begins to come out.

1045 Drilling is done. Begin to cleanup and prepare to demobilize from site. Drillers backfill borings with bentonite chips.

1055 Move to barrier wall installation. Trencher is moving and deploying the HDPE.

1140 Complete the roll of HPDE. Prepare to attach next roll. Break for lunch.

1245 Back at site.

1330 HTI resumes installing HDPE.

1345 Have installed about 250 feet of HPPE liner today at this point.

1530 Installed about another

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100 Total about 350 feet today.
1545 HTI is at a point where a decision has to be made about whether to continue along the original alignment along the northern side or go along the new proposed alignment. The ACS Technical committee has to approve the change in plan and the revised cost. Also, the trenches is at a point where boulders and cobbles may likely hinder progress and a decision has to be made on how to proceed. No more intrusive work today.
1560 Leave the site!

SMK

SMK 5-9-97

0815 Arrive at site. Cloudy, dark, windy, 50°F. Sign in and go over to the ACS railroad tracks. A crew is repairing the tracks and HTI is backfilling the barrier wall from yesterday's work and preparing to repair the broken sewer pipe.
1000 Sheri and Jim Chapman USEPA, IDEM, and US Fish and Wildlife are at site to inspect the wetland area in preparation of a meeting on the Ecological risk assessment that will occur offsite this afternoon. Dan Pehrman B&V attended also.
1200 Site walk concludes. Group leaves the site. I leave site because no intrusive activities are scheduled today.

SMK

Ashok Kulkarni 5-12-97

0830 On site

Weather: sunny; 53°F

Meet up with Ben. He said that on Friday, the small barrier wall trencher stopped deploying wall at about 28+00 because of anticipated hard clay and boulder/gravel area extending to near the station 30+00. Over the weekend, HTI used the chain on the big trencher to pre-excavate in two area, i.e, take out hard material all the way down to 3 feet into clay and backfill with bento-nite slurry. The pre-excavation was completed over the weekend except the last few feet. The big trencher had lost some teeth in the process. Pre-excavation in the area between 28+00 and 30+00 will be wrapped up today as soon as teeth on the big trencher are replaced.

Over the weekend, HTI put the railroad tracks back, backfilled that area, installed the conveyance piping in that area. The fence is not back up yet. This afternoon HTI will put the sewer line back on track.

Montgomery Watson is still waiting on USEPA's approval of new barrier wall alignment before proceeding. Ben also said YECI will be on site today and will begin installing the rest of the conveyance piping.

0930 Ben said Montgomery Watson's field crew will be on site tomorrow to mark piezometer locations along PGCS extraction trench.

1000 HTI dewatering the area where sewer line has to be re-connected

#20 RR tracks put back together

1110 HTI getting set up to re-connect sewer line.

1130 YECI on site

1145 Break for lunch

1230 HTI begins to excavate for sewer line.

1420 #21 HTI continues to excavate in the SW corner of ACS plant to re-connect sewer line through the barrier wall

1450 Cut down to sewer line level the plug came out and the excavation was re-filled with water will have to dewater some more before proceeding

1500 #22 YECI begins to install conveyance piping along colfax in the offsite area. will not have to excavate in this area HTI has to do 5 to 8' of backfilling in this area.

1530 Called Steve and Sheri to give an update

1540 Tom Froman walks with me showing the areas where water line would be installed inside the plant. This line would replace the production wells which are scheduled for abandonment. Total length of water line would be about

400' consisting of 300' of 3" HDPE and 100' of 6" ductile iron. Tom also informed me that they will pipe up the last 20' section of the storm water piping today. will do the catch basin later.

1605 #23 HTI continues to work on re-connecting the sewer line through the poly wall.

1650 #1, #2 Re-connecting the sewer line

1705 Bobbens with the welding machine so stop for some repair work.

1720 leave site

end

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0840 on site
Weather: drizzling, 50°F
Meet up with Ben. HTI finished getting the sewer line back to service late last night. They are finishing up the backfilling now. YECI continues to work on the conveyance piping in the OECA.

0910 HTI backfilling the area
#3 after re-connecting the sewer line.

0935 #4 YECI installing barrier wall conveyance piping in the OECA.

1045 YECI wraps up the installation activities in this area.

1055 HTI continues to do trenching
#5 work near station 28+00.
They have another 120' of wall to do before new alignment.

1115 YECI begins to install barrier
#6 wall conveyance piping inside the plant near the ACS office bldg.

1145 Break for lunch

1230 Back to the site.

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1300 HTI continues benching / pre-excavation activities near station 28+00.

1305 YECI resumes conveyance piping
#7 installation inside the plant

1410 YECI installing conveyance
#8 piping just outside the ACS building hit a big concrete chunk (≈ 13-14' inch thick) here.

1510 YECI still struggling to get the concrete out of the trench.

1520 YECI begins to lay down conveyance piping.

1600 YECI almost done with installation.

1605 Begin backfilling

1615 Leave site

End

0830 On site
Weather: sunny; 50°F
Meet up with Ben. HTI is in the process of changing the poly roll. They will resume wall installation (near the ACS gate across the trailer) very shortly. YECI will install a concrete pad around the valve assembly behind the building.

0845 Midwest Dewatering Company is onsite to install piezometers along PINES trench.

0855 Lee said YECI has completed all of the conveyance piping and manhole connections inside the plant. They have already connected EW15 and EW16.

0910 Construction meeting began. ACS is going to begin their water line installation today. YECI should be able to complete their work by early next week. They will conduct air testing on the pipes next week. HTI will

continue to do trenching with big trencher and polywall installation with small trencher. Some issues which remain to be resolved:

- all the trench up material (Cadfax sand) in the NW corner of OTCA will be taken off from there. Need to discuss the fate of it. Todd suggested to use this sand at the south end of OTCA in the trenched down areas as backfill.
- HTI will take memorial day weekend off.

1010 Meeting adjourned.

1020 HTI continues to do pre-trenching with the help of backhoe and big trencher and install the wall with small trencher.

1035 Midwest is getting set up to do the first set of piezometers (P-87, 88 and 89). There will be a total of 4 sets of piezometers.

1050 Begin installing piezometers #9, #10, #11 installing P-87, P-88 and P-89

1130 Complete installing P-87, 88, 89 at a location between stations 28+00 and 29+00. HTI has not yet resumed installing barrier wall.

1140 Break for lunch.

1230 Back to the site. Midwest is setting up at next location between stations 30+00 and 31+00 approx.

1240 Concrete truck is on site to pour concrete slab around the valve #12 assembly behind the bldg.

1315 HTI continues to install barrier #13 wall.

1320 YECI wrapped up their conveyance piping in the NW corner of ACS plant and manhole connections for EW10.

1330 #14 Midwest is installing piezometers P-84, P-85, P-86.

1345 Begin setting up at next location of piezometers.

1350 HTI changing to the new roll of polywall.

1405 YECI is heading to the SW corner of OFCA to finish up connections for EW12, EW13 and install additional conveyance piping to the location of EW14.

#15 1430 HTI doing pre-trenching with a big trencher along north ACS fence.

1435 #14 Midwest is setting up to do P-81, 82 and 83.

1440 Told Jeff Ramsby (field geologist for Montgomery Watson) that the method used for piezometer installation is not same as that mentioned in the SOP dated 4/29/97. Jeff said that the SOP was written incorrectly and should be changed to reflect the actual method used. He said he will let Pete know and have the SOP revised.

1520 Complete installation of P-81, 82 #16 and P-83.
#17

1505 HTI continues to install barrier #18 wall.

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1515 HTI stops to change to a new roll.
1550 HTI starts installing the new roll.
1615 Midwest completes installation of #19 P-90, P-91 and P-92 #20
1620 Go over to the locations where ACS intends to install water line. Apparently, construction work has not yet begun.
1645 Jeff said he will begin developing the piezometers tomorrow.
1655 HTI has stopped installing polywall. They have completed wall to the station 32+00
1710 HTI continues to do pre-trenching with big trencher
1725 Leave site

end

Ashok Sinfani
5-16-97

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0830 On site
Weather: sunny; 50°F
Meet up with Lee. Ben is off today. HTI worked till late yesterday and completed the pre-trenching to the station 38+00 along the new alignment. The new alignment has added 300 more feet of the earthen wall. Other surveying crew personnel are at the local ISD union office and will start work sometime this week.
Jeff Carnsby is onsite and has already started developing piezometers P-90, P-91 and P-92.
Yet to do grounding connections for EW12 and EW13 this morning. They will also extend the conveyance piping further south to the possible location of EW14 which has yet not been installed.
0930 Jeff completes development of piezometers P-90, 91 and 92.
1140 HTI resumes pre-trenching installation.

1015 Lee told me trailer is going to be picked up today.

1045 Jeff completes development of #21 P-87, 88 and 89. A volume of 5 to 8 gallons is being pumped from these piezometers.

1050 HTI is getting ready to change the polywall roll.

1100 Jeff is setting up to do piezometers P-84, 85 and 86

1120 #22, #23 Developing the PGCS piezometers.

1150 HTI still struggling to change the roll

1200 Jeff is setting up to do piezometers P-81, 82 and 83.

1230 HTI breaks for lunch.

1205 Off to lunch.

1310 Back to the site

Jeff has completed development of P-81, 82 and 83

1315 HTI is setting up to resume barrier wall.

Following are the measurements taken during piezometer development:

P-90	600 gallons	13.5	2.05
P-92	9.5 gallons	14.2	3.15
P-91	8.0 gallons	10.5	2.55
P-89	7.8 gallons	14.8	2.67
P-88	5.1 gallons	10.5	2.60
P-87	7.7 gallons	14.8	2.71
P-84	7.7 gallons	14.8	2.78
P-85	5.4 gallons	10.5	2.05
P-86	7.7 gallons	14.6	2.52
P-81	7.1 gallons	15.2	4.11
P-82	5.4 gallons	12.1	3.09
P-83	7.2 gallons	14.6	3.30

Total depth; Depth to water

1335 HTI resumes barrier wall installation.

1415 HTI stops to change the roll.

1445 Some problems with the roll box.

1500 HTI completes pretrenching

1530 HTI resumes barrier wall installation.

1620 HTI ready to change the roll

1640 Some problems with the trencher box

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5-16-97

1715 HTI will wrap up after this all according to Stan of Foster Wheeler.

1730 Leave site

end

Ashok Lulpani
5-17-97

1000 On site
Weather: Sunny, 45°F
HTI continues to install barrier wall. They are still on the wall they started late yesterday. HTI is also doing some trenching and pre-excavation at the SE corner of OFCA. As soon as these activities are complete, HTI will set up the big trencher in that corner to install barrier wall. Small trencher will be used to install the barrier wall only up to station # 38+00 approx.

1035 HTI setting ready to change the roll

1130 Complete the roll change. Continue barrier wall installation.

1145 Called Sheri and gave her an update

1205 Break for lunch

1240 Back to the site

1300 HTI continues to install barrier wall along north ACS fence.

1310 HTI continues to do trenching

and pre-excavation in the SE corner of OFCA

1400 #2 HTI stops to change the roll

1515 HTI resumes barrier wall installation.

1600 HTI ready to change the roll. After this roll, HTI will shut down for change of trencher.

1610 Leave site

end

0830 On site

Weather: sunny; 55°F

Meet up with Ben. He informed me that HTI did not do any barrier wall installation on 5/18/97. Instead, the last roll of the wall prior to change of trencher was installed yesterday morning. HTI has also begun doing some clean up work inside the plant. Currently the big trencher is being put together. Sometime this afternoon they will begin barrier wall installation.

XEGI and HTI are setting up at EW11 in the NW corner of the OFCA to install connecting conveyance piping and some manhole piping. XEGI has brought in vacuum truck to help keep the excavation down-level during installation actions.

0940 Go over to the area where ACS intends to install water line. No work seems to have gone underway so far.

Custom Steel bldg. (CSB) is also onsite to do grading/backfilling around the treatment bldg.

1010 HTI continues to cleanup inside the plant

1120 YECI and HTI completed EW11 #3, #4. connections. HTI will begin backfilling shortly. YECI completed EW18 yesterday they will complete EW12 and EW10 this afternoon. They had tried doing EW10 but stopped because of large volumes of water that was encountered. They have a vacuum truck to help in keeping the EW10 excavation dry. Water was pumped into the small baker tank (3000 gal) from EW11 excavation.

1145 Break for lunch

1220 Back to the site. ACS personnel are repairing the sewer line at the southwest corner of ACS plant.

1245 YECI is getting to make conveyance piping connections at EW12.

1305 HTI continues to do cleanup inside the plant.

1340 HTI still working on the big trencher and hope to get it in the ground shortly

1415 YECI continues to do connections at EW12.

1425 CSB continues to do grading work around the building.

1440 Called Rick, Shevic and Steve with an update.

#5 Removing the small trencher which will be demobilized tomorrow.

#6 HTI working on the big trencher

1500 YECI continues to work on connec- #7 tions at EW12. Using a vacuum #8 truck, YECI is keeping the excavation dry.

1530 HTI begins to set the trencher in the ground.

1615 #9 HTI begins barrier wall installation at the SE corner of OTCA.

Ashok Pinpani 5-20-97 — 112

1640 Some problems with the trencher. HTI stops and takes the trencher out of ground.

1700 Leave site

end

Ashok Pinpani 5-21-97 — 113

0830 On site

Weather: Sunny, 45°F

Meet up with SB crew. We told me HTI continues to have problems with the trencher and haven't started trench wall installation

0850 YECI continues to work on #10 conveyance piping connections #11 at EW18

0900 ACS has not started working on water line installation.

0935 #12 YECI working in EW18.

1000 YECI completes connections at EW18

1100 Brad told me that HTI will put the trencher in the ground some time this afternoon.

1115 YECI begins to set up for pressure testing of trench wall conveyance piping

1145 Break for lunch

1230 Back to the site. ACS is going to begin excavating to install stormwater piping through the trench wall in the SW corner

of the plant.

#13 ACS excavating around the barrier wall

1330 YECI continues to do permeability testing

1530 #14 ACS personnel continue to install stormwater piping through the barrier wall.

1605 HTI is not able to get the trencher working yet

ACS personnel stop for the day.

1640 YECI continues to do permeability testing of barrier wall conveyance piping.

1650 leave site.

end

0815 On site

Weather: sunny, 55°F

Met up with Barry. After Memorial Day weekend, HTI resumed work on 5/28/97. They could not get the trencher going until yesterday. They have already installed 21 Rolls of barrier wall and currently are in the process of changing a roll.

0915 HTI still doing the roll change.

0925 Barrier wall installed in the

#15 south east corner of the OFCA.

1000 HTI resumes barrier wall installation.

1010 HTI cannot pull away from the joint.

1100 HTI continues to work on the

#16 joint to see if they can pull away.

1140 HTI says they have some junk material stuck inside the boot and they are trying to clean it up.

1200 Break for lunch

1240 Back to the site.

1300 HTI continued to work on the

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5-30-97

trencher brout. Ben told me they had the similar problem couple of days ago and they were successful in resuming in a short while.

1330 There appears to be a tear (on one side of the joint) due to gravel/Cobbles apparently. HTI takes the trencher out of the ground to see what the problems are.

1400 Ben indicated they may begin barrier wall installation soon

14 55 HTI finally pulled the trencher out of the ground.

1515 Go over by Ben to discuss HTI's schedule over the weekend.

1530 Leave site

end

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 1
Date: 04-08-97 Time: 1030
Photographer: Ashok Rupani
Description: Facing east. HTI conducting pre-excavation activities along the eastern leg of the barrier wall alignment in the Onsite Containment Area. Some abandoned gas and sewer lines were encountered in these areas.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo#: 2
Date: 04-08-97 Time: 1055
Photographer: Ashok Rupani
Description: Facing north. HTI conducting pre-excavation activities along the eastern leg of the barrier wall alignment in the Onsite Containment Area. Some abandoned gas and sewer lines were encountered in these areas.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 3
Date: 04-14-97 Time: 1040
Photographer: Ashok Rupani
Description: Facing south. HTI conducting benching activities along the western leg of the barrier wall alignment in the north-west corner of the Offsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 4
Date: 04-14-97 Time: 1345
Photographer: Ashok Rupani
Description: Facing south. HTI conducting benching activities along the western leg of the barrier wall alignment in the north-west corner of the Offsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 5
Date: 04-11-97 Time: 1545
Photographer: Ashok Rupani
Description: Facing north-east. HTI excavating to expose the water line serving the treatment building and take it out of service until barrier wall is installed in this area near Station 29+00

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 6
Date: 04-16-97 Time: 0930
Photographer: Ashok Rupani
Description: Facing north-east. A view of the de-watering system installed by Griffin De-watering Corporation in the south-west corner of the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 7
Date: 04-16-97 Time: 0930
Photographer: Ashok Rupani
Description: Facing north-west. A view of the de-watering system installed by Griffin De-watering Corporation in the south-west corner of the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 8
Date: 04-16-97 Time: 0930
Photographer: Ashok Rupani
Description: Facing north-west. A view of the de-watering system installed by Griffin De-watering Corporation in the south-west corner of the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 9
Date: 04-16-97 Time: 0950
Photographer: Ashok Rupani
Description: Facing south-east. A view of the de-watering system installed by Griffin De-watering Corporation along eastern leg of the barrier wall alignment in the Onsite Containment Area near Station 41+00.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 10
Date: 04-16-97 Time: 1100
Photographer: Ashok Rupani
Description: Facing east. A view of the de-watering system installed by Griffin De-watering Corporation along eastern leg of the barrier wall alignment in the Onsite Containment Area near Station 41+00.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 11
Date: 05-06-97 Time: 1345
Photographer: Ashok Rupani
Description: Facing north-east. HTI conducting benching and pre-excavation activities across the railroad tracks located along the western leg of the barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 12
Date: 05-06-97 Time: 1345
Photographer: Ashok Rupani
Description: Facing south-east. HTI conducting benching and pre-excavation activities across the railroad tracks located along the western leg of the barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 13
Date: 05-06-97 Time: 1345
Photographer: Ashok Rupani
Description: Facing north-east. HTI conducting benching and pre-excavation activities across the railroad tracks located along the western leg of the barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 14
Date: 05-07-97 Time: 0915
Photographer: Ashok Rupani
Description: Facing south-east. HTI conducting benching and pre-excavation activities between Stations 26+00 and 27+00 along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 15
Date: 05-07-97 Time: 0915
Photographer: Ashok Rupani
Description: Facing north-west. HTI conducting benching and pre-excavation activities between Stations 26+00 and 27+00 along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 16
Date: 05-13-97 Time: 1055
Photographer: Ashok Rupani
Description: Facing south-east. HTI conducting benching and pre-excavation activities near Station 28+00 along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 17
Date: 05-06-97 Time: 1445
Photographer: Ashok Rupani
Description: Facing west. C. S. Drilling Co. begins conducting investigative soil borings near Station 28+00 along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 18
Date: 05-06-97 Time: 1620
Photographer: Ashok Rupani
Description: Facing south-east. C. S. Drilling Co. conducting soil boring TB-31 near Station 29+00 along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 19
Date: 05-06-97 Time: 1648
Photographer: Ashok Rupani
Description: Facing north-west. C. S. Drilling Co. conducting soil boring TB-32 between Stations 29+00 and 30+00 along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 20
Date: 05-07-97 Time: 1415
Photographer: Ashok Rupani
Description: Facing south-west. C. S. Drilling Co. conducting soil boring TB-36 near Station 32+00 along the northern leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 21
Date: 04-02-97 Time: 1445
Photographer: Ashok Rupani
Description: Facing east. HTI setting up to decontaminate the trenching machine used to install the barrier wall extraction trenches.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 22
Date: 04-03-97 Time: 1140
Photographer: Ashok Rupani
Description: Facing south. HTI repairing the barrier wall trenching machines.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 23
Date: 04-03-97 Time: 1140
Photographer: Ashok Rupani
Description: Facing west. HTI repairing the barrier wall trenching machines.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 24
Date: 04-09-97 Time: 1040
Photographer: Ashok Rupani
Description: Facing west. HTI installing the slurry wall portion of the barrier wall near Station 41+00 along the eastern leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 25
Date: 04-09-97 Time: 1130
Photographer: Ashok Rupani
Description: Facing east. HTI installing the slurry wall portion of the barrier wall near Station 40+00 along the eastern leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 26
Date: 04-09-97 Time: 1400
Photographer: Ashok Rupani
Description: Facing east. HTI installing the slurry wall portion of the barrier wall near Station 39+00 along the eastern leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 27
Date: 04-10-97 Time: 1000
Photographer: Ashok Rupani
Description: Facing east. HTI installing the slurry wall portion of the barrier wall just south of the north-east corner of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 28
Date: 04-10-97 Time: 1000
Photographer: Ashok Rupani
Description: Facing north. HTI installing the slurry wall portion of the barrier wall along the northern leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 29
Date: 04-10-97 Time: 1000
Photographer: Ashok Rupani
Description: Facing north-west. While installing the slurry wall portion of the barrier wall along the northern leg of the barrier wall alignment in the Onsite Containment Area, a back-hoe was used ahead of the trenching machine to pre-excavate and backfill with dry bentonite.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 30
Date: 04-10-97 Time: 1330
Photographer: Ashok Rupani
Description: Facing north-east. HTI investigating the extent of buried drums encountered while installing the slurry wall portion of the barrier wall along the northern leg of the barrier wall alignment in the Onsite Containment Area. The buried drums area was found to be approx. 70 feet long.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 31
Date: 04-10-97 Time: 1355
Photographer: Ashok Rupani
Description: Facing north-west. HTI setting up to resume installation of the slurry wall portion of the barrier wall just west of the area where buried drums were encountered.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 32
Date: 04-10-97 Time: 1355
Photographer: Ashok Rupani
Description: Facing north-east. HTI setting up to resume installation of the slurry wall portion of the barrier wall just west of the area where buried drums were encountered.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 33
Date: 04-14-97 Time: 1310
Photographer: Ashok Rupani
Description: Facing west. HTI repairing the barrier wall trenching machine after a second encounter with cobbles and boulders near Station 29+00 damaged the cutting chain on April 12, 1997.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 34
Date: 04-16-97 Time: 1315
Photographer: Ashok Rupani
Description: Facing west. After repairing the trenching machine, HTI resumes installation of the slurry wall portion of the barrier wall near Station 25+00 along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 35
Date: 04-16-97 Time: 1315
Photographer: Ashok Rupani
Description: Facing west. HTI installing the slurry wall portion of the barrier wall along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 36
Date: 04-16-97 Time: 1315
Photographer: Ashok Rupani
Description: Facing north-west. HTI installing the slurry wall portion of the barrier wall along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 37
Date: 04-16-97 Time: 1315
Photographer: Ashok Rupani
Description: Facing west. HTI installing the slurry wall portion of the barrier wall along the western leg of the barrier wall alignment in the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 38
Date: 04-22-97 Time: 1110
Photographer: Ashok Rupani
Description: Facing west. HTI making a joint during barrier wall installation near south-east corner of the barrier wall alignment in the Offsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 39
Date: 04-29-97 Time: 1030
Photographer: Ashok Rupani
Description: Facing west. HTI repairing the barrier wall trenching machine after another joint pulled apart on April 22, 1997.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 40
Date: 05-06-97 Time: 1630
Photographer: Ashok Rupani
Description: Facing south-east. Using a smaller trenching machine, HTI begins to install the barrier wall across the railroad tracks along the western leg of the barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 41
Date: 05-07-97 Time: 0930
Photographer: Ashok Rupani
Description: Facing east. Using a smaller trenching machine, HTI installing the barrier wall across the railroad tracks along the western leg of the barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 42
Date: 05-07-97 Time: 1500
Photographer: Ashok Rupani
Description: Facing east. Using a smaller trenching machine, HTI installing the barrier wall across the railroad tracks along the western leg of the barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 43
Date: 05-12-97 Time: 1000
Photographer: Ashok Rupani
Description: Facing west. After HTI installed the barrier wall across the railroad tracks along the western leg of the barrier wall alignment, the area was backfilled partly with excavated material and partly with clean sand and the railroad tracks restored.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 44
Date: 05-12-97 Time: 1650
Photographer: Ashok Rupani
Description: Facing north-east. HTI restoring the sewer line after installing the barrier wall near the south-west corner of the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 45
Date: 05-13-97 Time: 0910
Photographer: Ashok Rupani
Description: Facing north. HTI backfilling the excavation after restoring the sewer line near the south-west corner of the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 46
Date: 05-15-97 Time: 1315
Photographer: Ashok Rupani
Description: Facing north-east. Using a smaller trenching machine, HTI installing the barrier wall near the north-west corner of the barrier wall alignment in the Onsite Containment Area and beginning to install the barrier wall along the northern leg of the revised barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 47
Date: 05-15-97 Time: 1430
Photographer: Ashok Rupani
Description: Facing south-west. HTI using the bigger trenching machine to pre-excavate and install slurry wall portion of the barrier wall along the northern leg of the revised barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 48
Date: 05-15-97 Time: 1505
Photographer: Ashok Rupani
Description: Facing south. Using a smaller trenching machine, HTI installing barrier wall along the northern leg of the revised barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 49
Date: 05-17-97 Time: 1300
Photographer: Ashok Rupani
Description: Facing north-east. Using a smaller trenching machine, HTI installing barrier wall along the northern leg of the revised barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 50
Date: 05-17-97 Time: 1400
Photographer: Ashok Rupani
Description: Facing north-east. HTI making a joint during barrier wall installation along the northern leg of the revised barrier wall alignment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 51
Date: 05-20-97 Time: 1440
Photographer: Ashok Rupani
Description: Facing east. HTI decontaminating the smaller trenching machine before demobilizing it from the site.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 52
Date: 05-20-97 Time: 1615
Photographer: Ashok Rupani
Description: Facing west. HTI resumes barrier wall installation near the south-east corner of the barrier wall alignment near Station 8+50 in the Offsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 53
Date: 05-20-97 Time: 1440
Photographer: Ashok Rupani
Description: Facing south. HTI getting ready to move the trenching machine to the south-east corner of the barrier wall alignment after making necessary repairs.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 54
Date: 05-30-97 Time: 0915
Photographer: Ashok Rupani
Description: Facing south-west. HTI installed the first HDPE panel starting at Station 8+50 near the south-east corner of the barrier wall alignment in the Offsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 55
Date: 05-30-97 Time: 1100
Photographer: Ashok Rupani
Description: Facing west. HTI making a second joint after starting the barrier wall installation at Station 8+50 near the south-east corner of the barrier wall alignment in the Offsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 56
Date: 04-02-97 Time: 1535
Photographer: Ashok Rupani
Description: Facing south. HTI excavating to install manhole at Extraction Trench 10.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 57
Date: 04-04-97 Time: 1045
Photographer: Ashok Rupani
Description: Facing south-west. HTI placing gravel at the bottom of the excavation to install manhole at Extraction Trench 10.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 58
Date: 04-04-97 Time: 1130
Photographer: Ashok Rupani
Description: Facing south-west. HTI set the manhole in place at Extraction Trench 10.

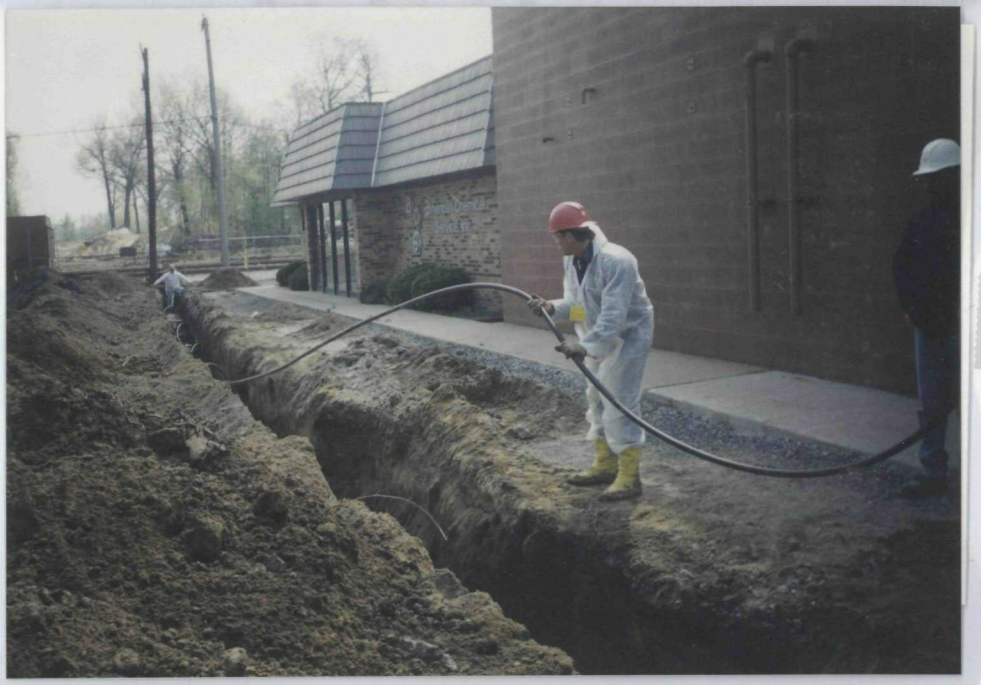
Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 59
Date: 04-04-97 Time: 1645
Photographer: Ashok Rupani
Description: Facing south-west. HTI completed the manhole installation at Extraction Trench 10 except the mechanical and electrical hook-ups.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 60
Date: 04-04-97 Time: 1650
Photographer: Ashok Rupani
Description: Facing west. HTI completed the manhole installation at Extraction Trench 18 except the mechanical and electrical hook-ups.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 61
Date: 04-14-97 Time: 1435
Photographer: Ashok Rupani
Description: Facing south. HTI installing a manhole at Extraction Trench 16.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 62
Date: 05-13-97 Time: 1115
Photographer: Ashok Rupani
Description: Facing south-west. Youngs begins to install the BWES conveyance piping (a 2-inch HDPE influent line and a 1-inch HDPE air line) near the south-east corner of the Onsite Containment Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 63
Date: 05-13-97 Time: 1305
Photographer: Ashok Rupani
Description: Facing north. Youngs installing BWES conveyance piping along the eastern leg of the barrier wall alignment in the Onsite Containment Area.



Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 64
Date: 05-13-97 Time: 1410
Photographer: Ashok Rupani
Description: Facing south. Youngs installing BWES conveyance piping along the eastern leg of the barrier wall alignment in the Onsite Containment Area.

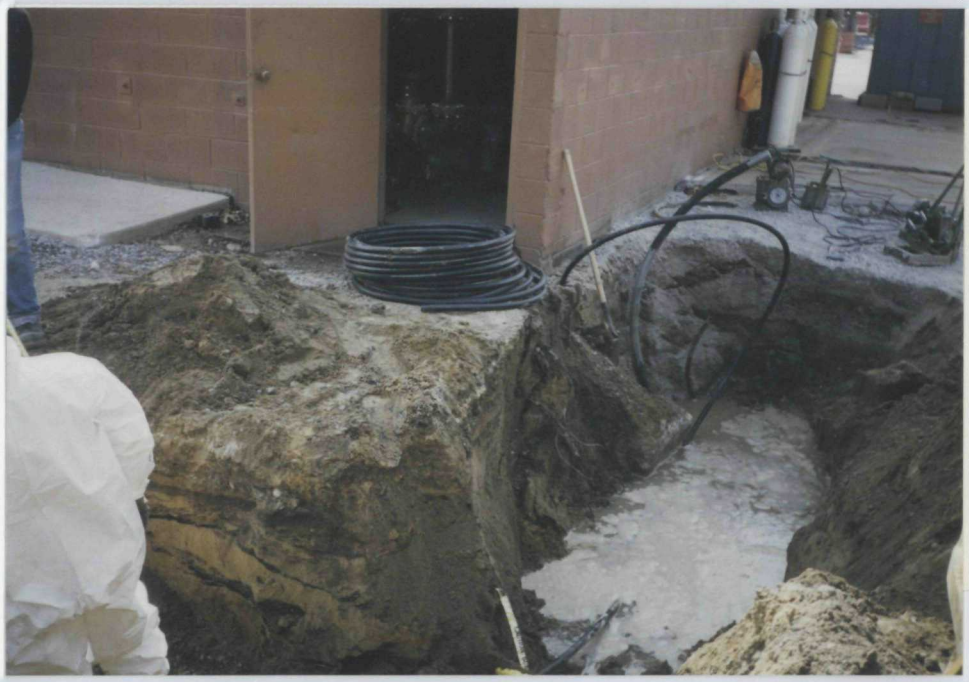
Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 65
Date: 05-13-97 Time: 1410
Photographer: Ashok Rupani
Description: Facing east. Youngs installing BWES conveyance piping just outside the north-east corner of the ACS office building.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 66
Date: 05-13-97 Time: 1410
Photographer: Ashok Rupani
Description: Facing west. Youngs installing BWES conveyance piping just outside the north-east corner of the ACS office building and getting ready to fuse the pipes to the ones installed earlier, thereby closing the loop.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 67
Date: 04-28-97 Time: 1405
Photographer: Ashok Rupani
Description: Facing north-west. HTI completes the mechanical and electrical hook-ups at Extraction Trench 10.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 68
Date: 05-13-97 Time: 0935
Photographer: Ashok Rupani
Description: Facing north. Youngs connecting the BWES conveyance piping to the sump at Extraction Trench 16 and installing the BWES conveyance piping from this sump to the fence just south of the railroad tracks. This portion of the BWES conveyance piping had not been completed earlier.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 65
Date: 05-13-97 Time: 1410
Photographer: Ashok Rupani
Description: Facing east. Youngs installing BWES conveyance piping just outside the north-east corner of the ACS office building.



Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 66
Date: 05-13-97 Time: 1410
Photographer: Ashok Rupani
Description: Facing west. Youngs installing BWES conveyance piping just outside the north-east corner of the ACS office building and getting ready to fuse the pipes to the ones installed earlier, thereby closing the loop.

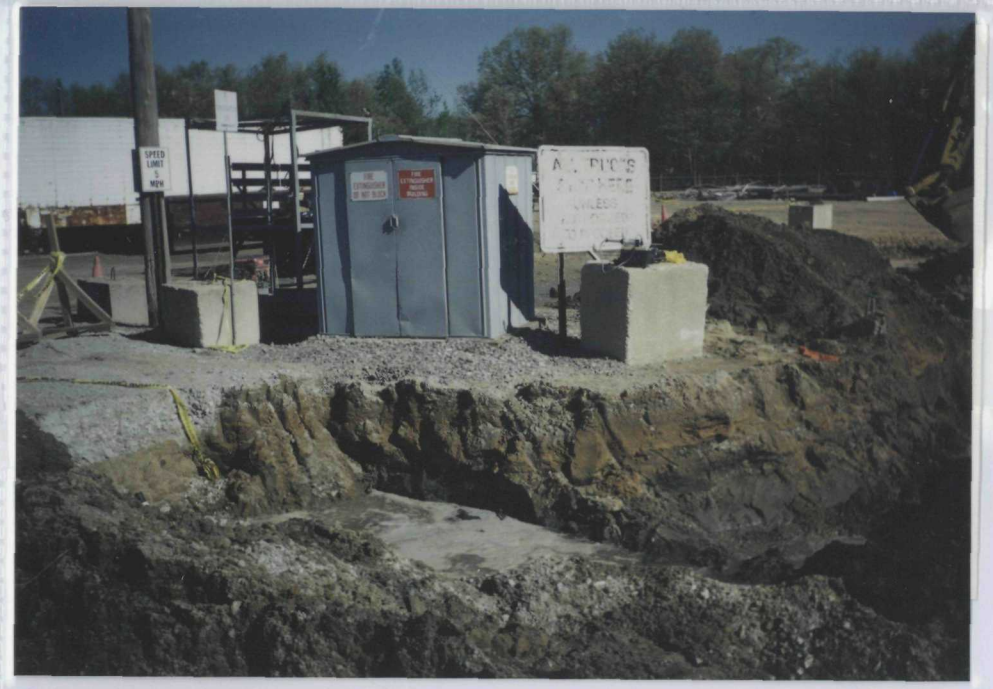
Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 71
Date: 05-20-97 Time: 1500
Photographer: Ashok Rupani
Description: Facing west. Youngs utilized a Vacuum Truck to de-water and help keep the excavations dry while connecting the BWES conveyance piping to the sumps at Extraction Trenches 11, 12, 13, and 18.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 72
Date: 05-20-97 Time: 1500
Photographer: Ashok Rupani
Description: Facing north-west. Youngs connecting the BWES conveyance piping to the sump at Extraction Trench 12.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 69
Date: 05-20-97 Time: 1120
Photographer: Ashok Rupani
Description: Facing south. Youngs connected the BWES conveyance piping to the sump at Extraction Trench 11.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 70
Date: 05-20-97 Time: 1120
Photographer: Ashok Rupani
Description: Facing south-east. HTI completing the mechanical and electrical hook-ups at Extraction Trench 11.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 73
Date: 05-21-97 Time: 0850
Photographer: Ashok Rupani
Description: Facing north. Youngs connecting the BWES conveyance piping to the sump at Extraction Trench 18.



Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 74
Date: 05-21-97 Time: 0850
Photographer: Ashok Rupani
Description: Facing north-west. Youngs conducting de-watering activities while connecting the BWES conveyance piping to the sump at Extraction Trench 18.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 75
Date: 05-21-97 Time: 0935
Photographer: Ashok Rupani
Description: Facing north-west. Youngs connecting the BWES conveyance piping to the sump at Extraction Trench 18.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 76
Date: 05-15-97 Time: 1050
Photographer: Ashok Rupani
Description: Facing west. Midwest De-watering Co. installing the PGCS monitoring piezometer P-87.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 77
Date: 05-15-97 Time: 1050
Photographer: Ashok Rupani
Description: Facing west. Midwest De-watering Co. installing the PGCS monitoring piezometer P-89.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 78
Date: 05-15-97 Time: 1050
Photographer: Ashok Rupani
Description: Facing west. Midwest De-watering Co. installing surface casing for the PGCS piezometer P-88.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 79
Date: 05-15-97 Time: 1330
Photographer: Ashok Rupani
Description: Facing north-east. Midwest De-watering Co. installing the PGCS monitoring piezometer P-85.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 80
Date: 05-15-97 Time: 1500
Photographer: Ashok Rupani
Description: Facing east. Midwest De-watering Co. installing the PGCS monitoring piezometer P-82.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 81
Date: 05-15-97 Time: 1500
Photographer: Ashok Rupani
Description: Facing west. Midwest De-watering Co. installing the PGCS monitoring piezometer P-83.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 1 Photo #: 82
Date: 04-01-97 Time: 0930
Photographer: Ashok Rupani
Description: Facing west. Construction of ACS stormwater collection system in progress. Midwest Material Services of Hammond, Indiana, was the contractor for the project.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 1 Photo #: 83
Date: 04-01-97 Time: 1015
Photographer: Ashok Rupani
Description: Facing south-west. Excavating to 15 feet below ground surface to install the western settling tank of the stormwater collection system

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 1 Photo #: 84
Date: 04-01-97 Time: 1115
Photographer: Ashok Rupani
Description: Facing west. Crane lifting the bottom half of the western settling tank to set it in the excavation.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 1 Photo #: 85
Date: 04-01-97 Time: 1130
Photographer: Ashok Rupani
Description: Facing south-west. Setting the bottom half of the western settling tank in place.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 86
Date: 04-02-97 Time: 1040
Photographer: Ashok Rupani
Description: Facing south. Filling water in the western settling tank to prevent it from moving during backfilling activities.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 87
Date: 04-02-97 Time: 1150
Photographer: Ashok Rupani
Description: Facing south-west. Wet soils were encountered during excavation activities for the central settling tank. The photo shows wet soils being mixed with dry soils excavated earlier in order to facilitate transport to the Upper Aquifer Spoils Management Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 88
Date: 04-02-97 Time: 1435
Photographer: Ashok Rupani
Description: Facing west. Loading haul truck to transport the excess excavated soils to the Upper Aquifer Spoils Management Area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 89
Date: 04-02-97 Time: 1445
Photographer: Ashok Rupani
Description: Facing south. Bottom half of the central settling tank being set in place.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 90
Date: 04-02-97 Time: 1455
Photographer: Ashok Rupani
Description: Facing south. A panoramic view of the ACS fire pond.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 91
Date: 04-02-97 Time: 1505
Photographer: Ashok Rupani
Description: Facing south-west. A panoramic view of the ACS stormwater collection system construction activities. The contractor is getting ready to set the top half of the central settling tank in place.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 92
Date: 04-03-97 Time: 0905
Photographer: Ashok Rupani
Description: Facing south. Excavating to 15 feet below ground surface to install the eastern settling tank.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 93
Date: 04-03-97 Time: 1100
Photographer: Ashok Rupani
Description: Facing south-west. Setting the bottom half of the eastern settling tank in place.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 94
Date: 04-03-97 Time: 1115
Photographer: Ashok Rupani
Description: Facing south. Some buried drums were uncovered while excavating for the eastern settling tank.

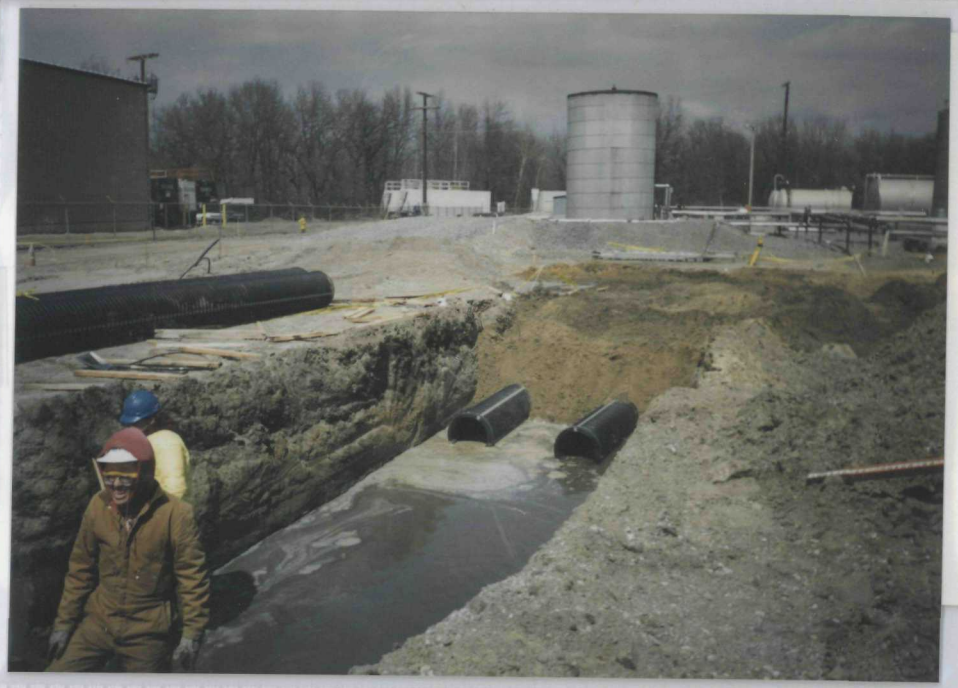
Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 95
Date: 04-03-97 Time: 1115
Photographer: Ashok Rupani
Description: Facing south-west. Some buried drums were uncovered while excavating for the eastern settling tank.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 96
Date: 04-03-97 Time: 1138
Photographer: Ashok Rupani
Description: Facing north-west. Crane lifting the top half of the eastern settling tank to set it in the excavation.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 97
Date: 04-04-97 Time: 1030
Photographer: Ashok Rupani
Description: Facing south. Installing a connecting pipe between the western and the central settling tank.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 98
Date: 04-04-97 Time: 1630
Photographer: Ashok Rupani
Description: Facing south-west. Backfilling around the three settling tanks is nearly completed.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 99
Date: 04-07-97 Time: 1440
Photographer: Ashok Rupani
Description: Facing south. Excavating to install two 18-inch, corrugated, outflow, HDPE pipes for the stormwater collection system.



Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 100
Date: 04-08-97 Time: 1400
Photographer: Ashok Rupani
Description: Facing north-west. Installing stormwater piping which rums from the western settling tank to the drainage ditch which runs into the wetlands.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 101
Date: 04-08-97 Time: 1410
Photographer: Ashok Rupani
Description: Facing north-west. While excavating to install stormwater piping, miscellaneous debris/concrete was encountered approximately 100 feet east of the ACS fence. This miscellaneous debris/concrete was also encountered during pre-trenching activities for the barrier wall.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 102
Date: 04-08-97 Time: 1510
Photographer: Ashok Rupani
Description: Facing east. While excavating to install stormwater piping, the BWES conveyance piping, installed earlier by Youngs, was accidently damaged. The photo shows Montgomery Watson personnel getting ready to repair the BWES conveyance piping.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 103
Date: 04-10-97 Time: 0930
Photographer: Ashok Rupani
Description: Facing west. While excavating to install stormwater piping, miscellaneous debris/concrete was encountered near the ACS fence.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 104
Date: 04-10-97 Time: 1030
Photographer: Ashok Rupani
Description: Facing south-west. Excavating to install stormwater piping near the ACS fence.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 105
Date: 04-10-97 Time: 1045
Photographer: Ashok Rupani
Description: Facing south-west. Installing stormwater piping near the ACS fence.The excavation continued through the fence by under-digging.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 106
Date: 04-10-97 Time: 1300
Photographer: Ashok Rupani
Description: Facing north. Installing stormwater piping outside the ACS fence and continuing towards the drainage ditch.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 107
Date: 04-10-97 Time: 1300
Photographer: Ashok Rupani
Description: Facing south. Installing stormwater piping outside the ACS fence and continuing towards the drainage ditch.

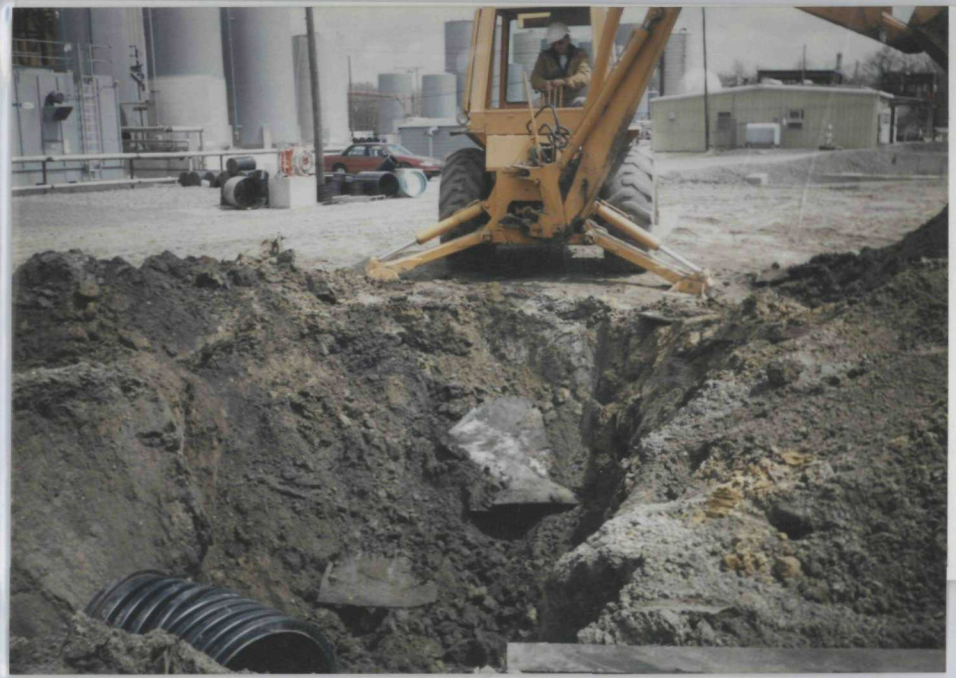
Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 108
Date: 04-14-97 Time: 1255
Photographer: Ashok Rupani
Description: Facing north-east. Several pieces of metal and crushed drums were encountered while excavating for stormwater piping a few feet east of the ACS fence.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 109
Date: 04-21-97 Time: 1005
Photographer: Ashok Rupani
Description: Facing west. Installing a 24-inch, inflow, stormwater piping just east of the three settling tanks.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 110
Date: 04-21-97 Time: 1430
Photographer: Ashok Rupani
Description: Facing west. Installing an 80 feet long, 12-inch collection pipe for the stormwater collection system, just north of the three settling tanks.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 111
Date: 04-22-97 Time: 1230
Photographer: Ashok Rupani
Description: Facing west. Few buried drums were encountered while excavating to install stormwater piping east of the settling tanks.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 112
Date: 04-22-97 Time: 1230
Photographer: Ashok Rupani
Description: Facing west. Few buried drums were encountered while excavating to install stormwater piping east of the settling tanks.



Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 113
Date: 04-22-97 Time: 1230
Photographer: Ashok Rupani
Description: Facing east. Installing stormwater piping just east of the settling tanks.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 114
Date: 04-28-97 Time: 1550
Photographer: Ashok Rupani
Description: Facing south-west. Backfilling with excavated material after installation of stormwater piping was completed.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 115
Date: 04-28-97 Time: 1320
Photographer: Ashok Rupani
Description: Facing north-east. The 24-inch inflow line was temporarily capped until the stormwater manhole was installed.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 116
Date: 04-28-97 Time: 1320
Photographer: Ashok Rupani
Description: Facing south-west. The 24-inch inflow line was temporarily capped until the stormwater manhole was installed.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 117
Date: 04-28-97 Time: 1330
Photographer: Ashok Rupani
Description: Facing north. ACS personnel indicating the location of the new 100,000-gallon water tank for fire control purposes.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 118
Date: 04-28-97 Time: 1340
Photographer: Ashok Rupani
Description: Facing south-west. Miscellaneous debris/concrete encountered during construction of stormwater collection system.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 5 Photo #: 119
Date: 04-28-97 Time: 1345
Photographer: Ashok Rupani
Description: Facing south. Drums shown in Photo #s 111 and 112 were temporarily covered with plastic.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 120
Date: 05-21-97 Time: 1300
Photographer: Ashok Rupani
Description: Facing west. ACS personnel excavating to install a section of the stormwater piping through the barrier wall by cutting a hole in the wall and welding an HDPE sleeve on to the wall.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 7 Photo #: 121
Date: 05-21-97 Time: 1530
Photographer: Ashok Rupani
Description: Facing west. ACS personnel excavating to install a section of the stormwater piping through the barrier wall by cutting a hole in the wall and welding an HDPE sleeve on to the wall.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 2 Photo #: 122
Date: 04-02-97 Time: 1325
Photographer: Ashok Rupani
Description: Facing north. Monitoring well MW-35, located inside the City of Griffith Landfill, was found damaged. The damage appeared to have been caused by a piece of heavy equipment.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 1 Photo #: 123
Date: 04-01-97 Time: 1600
Photographer: Ashok Rupani
Description: Facing north-east. Collecting a surface water sample from the drainage ditch located along the north ACS fence.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 1 Photo #: 124
Date: 04-01-97 Time: 1600
Photographer: Ashok Rupani
Description: Facing north-east. Collecting a surface water sample from the drainage ditch located along the north ACS fence.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 1 Photo #: 125
Date: 04-01-97 Time: 1600
Photographer: Ashok Rupani
Description: Facing south. Collecting a surface water sample from the drainage ditch located along the north ACS fence.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 126
Date: 04-10-97 Time: 1315
Photographer: Ashok Rupani
Description: Facing south. Pouring a concrete pad adjacent to the peroxide tank.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 6 Photo #: 127
Date: 05-15-97 Time: 1240
Photographer: Ashok Rupani
Description: Facing south. Pouring a concrete pad around the PGCS valve assembly.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 3 Photo #: 128
Date: 04-10-97 Time: 1245
Photographer: Ashok Rupani
Description: Facing south-west. Taking the railroad tracks near Station 26+00 out of service to allow barrier wall construction through this area.

Site: American Chemical Services, Inc. RD/ERA
Proj. #: 71670.600
Roll: 4 Photo #: 129
Date: 04-22-97 Time: 1100
Photographer: Ashok Rupani
Description: Facing north. An underground storage tank was found just outside the main entrance to the Offsite Containment Area. The photo shows Montgomery Watson personnel gauging the depth of the tank.